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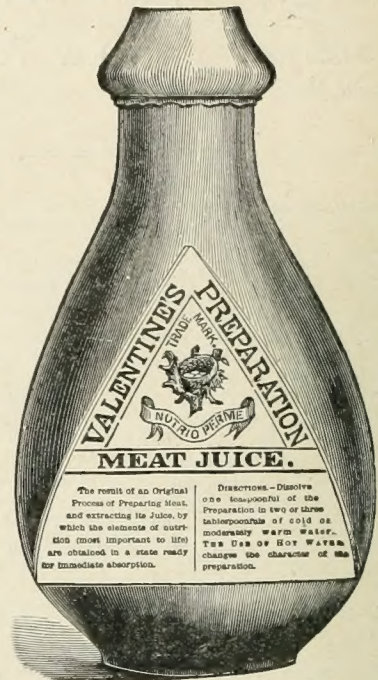
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Original Communications.

ENDOTHELIAL SPINDLE CELLED SARCOMA OF THE DURA MATER PENETRATING THE BRAIN.*

By I. W. BLACKBURN, M. D.,

AND

WILLIAM H. HOUGH, M. D.,

WASHINGTON, D. C.

The case of intracranial tumor here presented is one of unusual interest, the growth being of large size, and by its invasion of the brain illustrating to a remarkable degree the tolerance of this organ toward growths of the class to which this tumor belongs.

As will be seen from the description and the illustrations the tumor originated from the dura mater just in advance of the sella turcica, and at the posterior inner angle of the orbital plate of the right frontal bone. As it grew upward it penetrated the brain and formed a large cavity in the base, mainly in the orbital surface of the right frontal lobe. In its invasion of the brain it destroyed both olfactory tracts, nearly destroyed the optic nerves and chiasma and thrust the cerebral structures before it, becoming almost wholly imbedded within the brain substance, yet the growth had no organic connection with the brain except slight incorporation with the leptomeninges.

The case furthermore confirms the claim of the writer that when tumors of this kind are accessible, do not involve vital portions of the brain, and are not of too large size, they are the most favorable of all intracranial tumors for surgical treatment. When small, they may be easily enucleated without serious damage to the brain and without any fear of recurrence. Even in the present case there were theoretically no insurmountable obstacles to removal except the large size of the growth, the situation, and the mechanical difficulties attending its detachment from the seat of origin. These tumors grow slowly, and are sharply circumscribed so that in some cases when interfering with well recognized cerebral functions it may be possible to accurately localize them; and in such cases if accessible their early removal is of the highest importance.

These dural tumors, I am convinced, form a very large proportion of intracranial growths in adults. In twenty-nine intracranial tumors studied by the writer in 1902, seventeen were of this class, and in nearly every case origin from the dura was easily demonstrated. Since that time three additional

growths of the kind have been found among my cases, and by correspondence I have learned of several more.

Though three of the twenty growths of this kind now studied were situated at the base of the frontal lobes and were of large size, quite a number, I think, could have been removed, as no less than eight were over various portions of the convexity. Several of the growths of the series were small and their presence was unsuspected, and unfortunately some may reach great size before they give rise to marked symptoms, by which time surgical removal is hazardous from their size alone.

Though these tumors, commonly known as endotheliomata, are in all probability derived from the endothelium of the lymph spaces of the dura, and possible those of the soft membranes, we cannot say positively that the surface cells do not enter into the neoplastic tissue. In one of my cases I had unmistakable evidence that the tumor cells were derived from proliferation of the endothelial cells covering the evaginations of the arachnoid into the lymph spaces of the dura. If this be accepted as correct there is no reason why the surface cells of the dural arachnoid may not also originate the tumor elements.

The majority of these tumors are made up of spindle cells, though I have found all gradations from the spindle celled growths to those presenting marked endothelial character. In many of the more endothelial like tumors an alveolar structure is evident, and some of those composed of spindle cells are intersected by delicate strands of connective tissue separating the solid cell masses. In almost all tumors of this class there is a tendency for the cells to form concentrically arranged groups, or cell spherules, and for these cell whorls to undergo hyaline degeneration and sometimes subsequent calcification. This peculiarity, so far as I know, is confined to growths of this class. It is difficult to explain this, though it may be the result of cell growth from certain centres, the earlier formed elements being crowded to the periphery and by mutual pressure attenuated. Spindle cell bands running in horizontal direction are also seen in all, and sometimes these as well as other constituents of the tumor become hyaline.

These growths are limited by a more or less distinct capsule formed by condensation of the surface cells into a membrane which is at times highly vascular. Blood vessels are usually rather scanty in the tumor tissue, and have usually imperfectly developed walls consisting mainly of endothelium and a little fibrous tissue. Sometimes, however, the walls

* Read before the Medical Society of the District of Columbia, January 31, 1906.

become thick and may be hyaline, and again some blood channels are found which seem to be merely separated from the tissue by flattened cells.

Though these growths differ markedly from ordinary sarcomata, I see no reason for excluding them from this general class of malignant and semi-malignant mesoblastic tumors. I have, therefore, for histological and histogenetic reasons called such tumors spindle celled endothelial sarcomata from the predominant type of cells and the supposed derivation.

They are occasionally multiple, but in no instance have I seen any evidence of infiltration of adjoining structures. Being essentially benign tumors they act injuriously only by pressure, as do nonmalignant

ing the hospital from the almshouse there was very little history obtainable, and the patient's mental condition was such that she could furnish scarcely any herself. The few intelligent statements that she would make could not be relied upon, for she frequently contradicted herself, often denying statements she had previously made. She seemed to be fairly certain, however, that she had been completely blind for about one year previous to admission, and that she had recently suffered with headache.

The admission certificate stated that she complained of pain in the head, would lie quietly in bed the greater part of the time, was cross and irritable, and often refused to talk, and occasionally would not take nourishment.

Clinical notes: On admission into the hospital at 2



FIG. 1.—Basal view of the brain, showing the tumor in situ and its encroachment upon the structures in the vicinity. Natural size.

growths, but unfortunately in case of intracranial neoplasms this is of serious importance, and clinically they may have the same effects as true cerebral tumors. The fact, then, that so large a proportion of intracranial tumors are of this class, and that they are more than others amenable to surgical treatment, is, I think, worthy of general recognition.

The following is the brief clinical history of the present case for which I am indebted to my associate and colleague, Dr. Hough, and we here wish to express our indebtedness to Dr. C. H. Clark, chief of the department in which the case occurred:

CASE.—History: The patient, J. W., is a colored female, aged thirty-six years, married, and was admitted into the Government Hospital for the Insane March 8, 1904. As is frequently the case with patients enter-

p. m., she was taken to the bath where she resisted the nurses and objected to being bathed. Her person was in an extremely filthy condition. She ate a hearty lunch, and was put in the ward with the other patients. She was quiet and seclusive, seldom entering into conversation with anyone. She slept well at night, and would frequently fall asleep in her chair during the day.

Examination on admission: The patient is a medium sized somewhat emaciated, dark brown negro. She is completely blind, facial expression dull and somewhat depressed. Excepting a slight acne on the face, the skin appears to be normal, mucous membranes pink and moist, and muscles poorly developed, but efficient in tone. There is no glandular enlargement, and the osseous system appears to be normal. The circulatory, respiratory, and alimentary systems, aside from a few unimportant details, appear to be in normal condition.

Nervous system: The patient stands erect, and the gait shows no incoordination, although she is slow and cautious, owing, perhaps to her inability to see. There are no paralyses nor pareses, oculomotor or otherwise. The muscle reflex is slightly accentuated, the cutaneous reflex normal, no Babinski's sign, nor ankle clonus, and the patellar reflex is exaggerated. The patient has no pain, and the only other sensory disturbance determined at this time is that of sight, which is completely absent.

Mental examination: Her emotional attitude is one of indifference; she sits quietly in the ward and takes no interest in things, except those directly concerning herself. She prefers not to be interfered with, is at times cross and irritable and occasionally displays vio-

evidence of this disease. The urine was also normal, no diazo reaction.

On November 15, 1904, she had a series of general epileptiform convulsions, lasting for about twelve hours, and leaving her in a semicomatose condition for several days. She had another similar series the following April (1905), a mild convulsion in July, and a very severe series lasting for two days, beginning September 30th, which left her in deep coma, with fever ranging from 101° to 104° until death occurred four days later (October 4, 1905).

During the last eight months of her life she remained in bed asleep most all the time, and the degree of dementia became extreme. She seldom spoke, except to occasionally call for food or water, and aside from

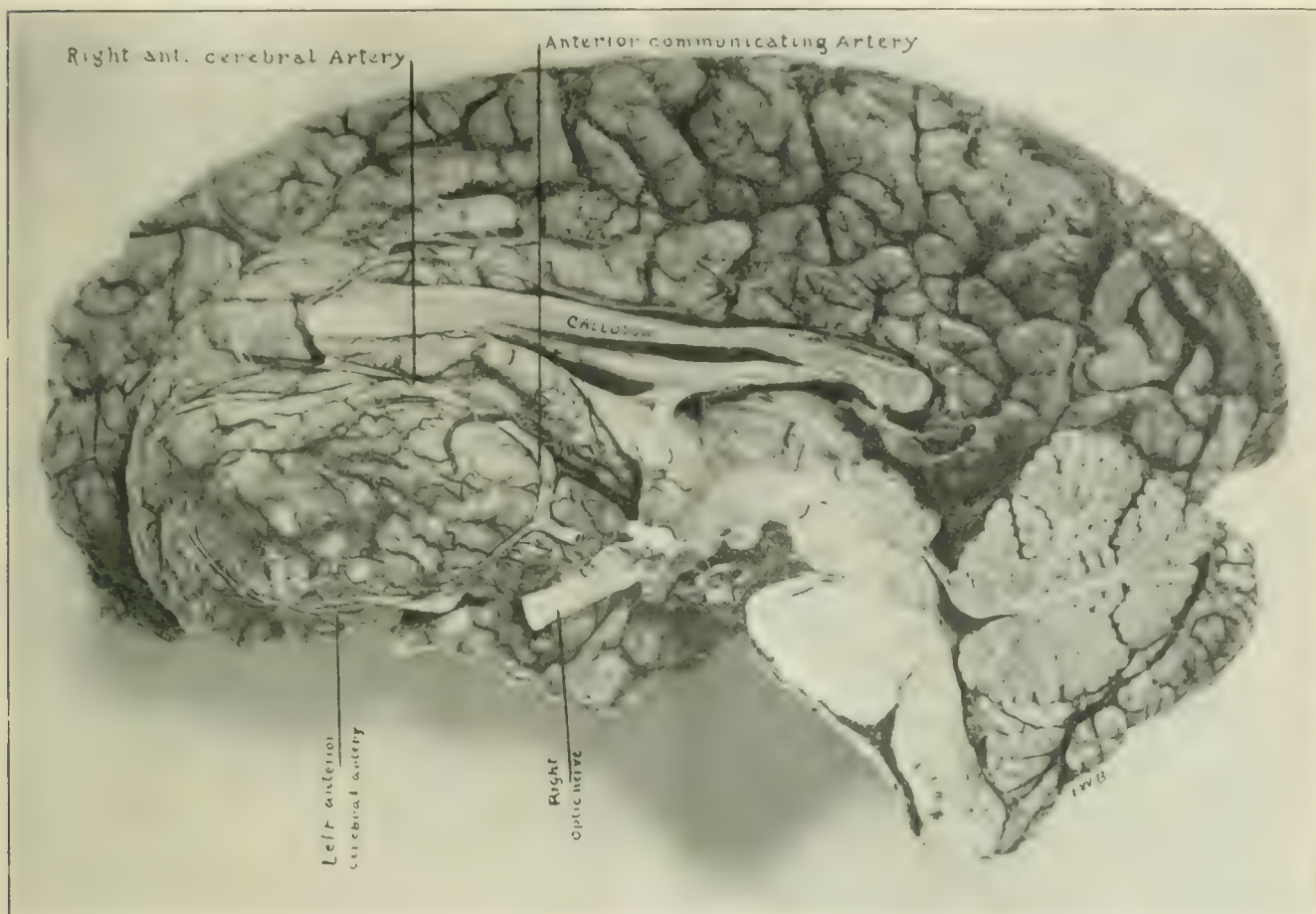


FIG. 2.—View from the medial surface of right hemiencephalon with the tumor, showing the displacement of the cerebral structures. The pia and brain substance end without perceptible line of demarcation on the surface of the tumor.

lent outbursts of temper. It is not difficult to get her attention, but it cannot be held for any length of time. Her memory for past events is only fair, for present events poor, and her associative memory is poor as shown by her partial disorientation. There is marked poverty of thought, she loses the goal idea easily, and can stand but little mental exertion. She is religious and superstitious, but there are no delusions nor hallucinations apparent.

During the succeeding eight months there was very little change to be noted in the patient's condition. Occasionally she would prefer to remain in bed during the day rather than be dressed and out in the ward, and at times complained of headache. She gradually became somewhat more demented and also more emaciated, and, as she had an occasional cough, tuberculosis was suspected, but examination of the chest and repeated examinations of the sputum failed to show any

several attacks of nausea and occasional constipation, there were no gastrointestinal disturbances. There was no motor disturbance, for even until the last series of convulsions she would get out of bed unaided to use the commode, but would frequently go to sleep while sitting up and would have to be returned to bed by the nurse.

Although a retinoscopic examination was not made, she was considered to have a double optic atrophy.

The case was diagnosed as one of mental deterioration occurring in an individual primarily mentally deficient. Although the dementia was thought to be due to an organic disease of the brain, in the absence of sufficiently definite symptoms a cerebral tumor was not diagnosed.

AUTOPSY NOTES.—Autopsy was done three hours after death; the emaciation was marked; rigor mortis

commencing; the body was still warm. No external evidence of disease except the emaciation.

Cranium: Scalp normal; skull about the usual thickness, with shape of calvaria symmetrical. Signs of increased intracranial pressure are evident over the inner table of the frontal bone and the anterior portions of the middle cerebral fossæ. The bone has been pitted by absorption and small bony prominences are seen projecting from the general surface. The sutures are not distinguishable over either surface. The dura over the left side of the brain has about the usual tension; over the right side it is abnormally tense.

Brain: On reflecting the dura from the convexity marked flattening of the summits of the convolutions over the right side is apparent and the presence of

the frontal and temporal lobes are also adherent to the dura and bone, and portions of the pia and brain substance have been forced by internal pressure into the little pits produced by absorption of the inner table.

After removal of the brain it is seen that a large tumor occupies the orbital portion of the base mainly encroaching upon the right frontal lobe, but also making a deep impression in the medial surface of the left hemisphere. It extends, as nearly as can be determined, from the optic chiasma anteriorly to within about 1 centimetre of the anterior extremity of the frontal lobe, measuring in this direction 8 centimetres; in the transverse diameter it measures about the same, and extends from within 2 centimetres of the outer border of the right frontal lobe fully 3 centimetres beyond

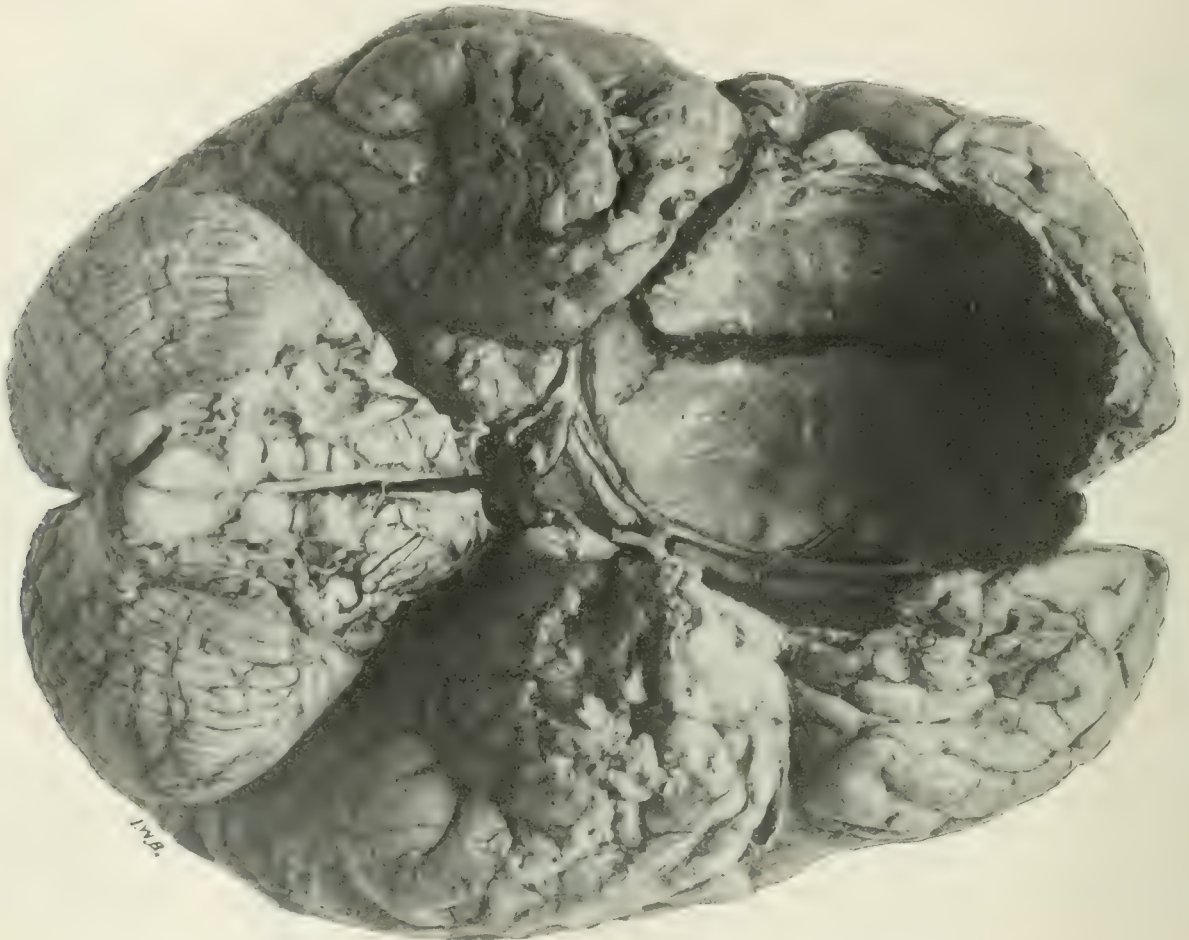


FIG. 3. -View of the cavity left after removal of the tumor from the brain.

some internal growth or other cause of increased pressure is suspected. Palpation reveals a slight difference in the consistence of the two frontal lobes. The veins of the convexity over the frontal lobe on the right side are partly emptied by pressure; on the left side they are abnormally prominent from engorgement. On the left side the gyri show some atrophy anteriorly, which is not apparent on the right.

On attempting to remove the brain strong adhesions to the dura and bone are encountered over the orbital surface of the right frontal lobe, and over the anterior extremities of the temporal lobes. It is found now that a large tumor originating from the dura has grown upward from the base of the skull and penetrated mainly the orbital surface of the right frontal lobe. Forced dissection is necessary to remove the brain and with it the tumor, which is firmly attached to the dura and bone at the site of origin. The anterior extremities of

the median line into the inner face of the left hemisphere. On the under surface of the tumor is a deep depression made by a corresponding elevation of the bone at the site of origin. The upper surface extends deeply into the brain substance; how far will be ascertained later.

The structures at the base have been greatly displaced by the encroachment of the growth in every direction. The chiasma is stretched and flattened; the optic nerves are flattened over the tumor from the chiasma to their foramina and the right is deeply imbedded in the surface and scarcely recognizable as a nerve. The olfactory tract of the left side is indistinctly traceable into the surface of the tumor; that of the right cannot be discovered. The left anterior cerebral artery lies stretched over the left border of the tumor; the right lies deeper and is not visible.

The tumor seems to have originated from the dura;

just in front of the sella tureca and over the body of the sphenoid bone, and the posterior inner angle of the right orbital plate of the frontal bone. From this origin it had expanded in every direction carrying the soft membranes and bloodvessels in advance, until it became imbedded in and almost surrounded by brain tissue. A small portion of the tumor between the seat of origin and the brain substance lies exposed in the subdural space; and a portion of the tissue extends

for further study, and the organs of the thorax and abdomen are examined.

Thorax: The pleural cavities are normal. The weight of right lung, 510 grammes; left, 290 grammes. Some œdema and hypostatic engorgement of both; and in the left upper lobe is a small gangrenous cavity. The bronchial lymph nodes are deeply pigmented and slightly enlarged.

Heart: It weighs 210 grammes; the superficial vessels are prominent and tortuous. The left valves show some small patches of opacity. The aorta is normal.

Spleen weighs 70 grammes, and its tissue is normal.

Kidneys: The weight of left is 100 grammes; of the right, 90 grammes. The capsules adhere slightly and the surfaces are granular.

Liver: Weight, 840 grammes. The tissue is bile stained; the gallbladder contains a small quantity of thick, dark bile.

Other organs show nothing of importance.

The tumor having been partially hardened in formalin was carefully enucleated from the brain and more accurately studied than was possible at the autopsy. It was found to be extremely difficult to determine where the pia and thinned out brain substance ended and the exposed surface of the tumor began, so completely had the two been incorporated at their edges. The tumor had carried before it the pia and the anterior cerebral veins, a large one of which lay stretched across the bottom of the cavity in the brain. See Fig. 3.

The growth was nearly globular except the depression in its under surface. It measured in anteroposterior diameter 8 centimetres; transversely, 7.5 centimetres; and in vertical diameter or extension into the brain, 5.5 centimetres. The weight of the tumor was 140 grammes, nearly 5 ounces avoirdupois.¹ The weight of the right hemiencephalon after removal of the tumor was 510 grammes; that of the left, 490 grammes; the right, though it was more encroached upon by the tumor, was 20 grammes heavier.

The surface of the tumor was somewhat nodulated and granular, and covered by a thin capsule in which

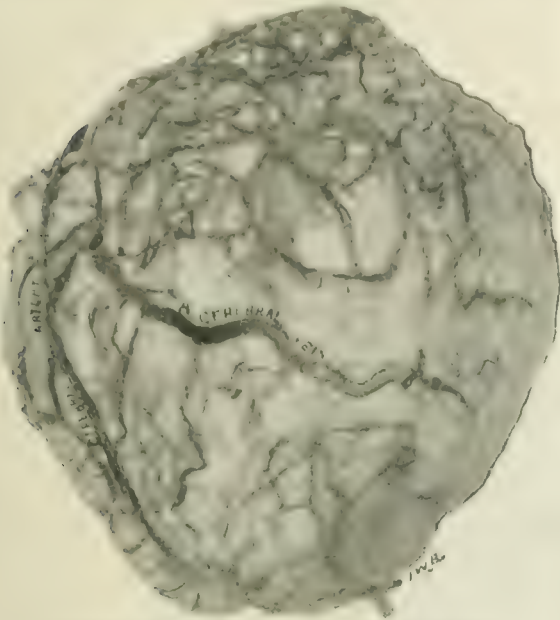


FIG. 4. View of upper surface of the tumor.

backward over the anterior border of the pituitary fossa and lies in close proximity to the hypophysis. The exposed portions of the growth are covered by a thin capsule of connective tissue containing many prominent bloodvessels. The tumor tissue is of a grayish red color and moderately firm. The brain tissue in the vicinity is abnormally soft and œdematous. The gyri of the right insula are swollen, the temporal operculum is displaced, and the uncinate gyrus of this side is thrust downward toward the foramen magnum as a swollen mass. The falx has made a sharp impression on the medial surface of the right hemisphere; the tentorium has made a similar indentation in the base; and portions of the cerebellum have been thrust downward into the foramen and lie as rounded protuberances on the sides of the medulla.

The cerebral arteries at the base are unusually small, but show no evidence of disease. The left anterior cerebral artery is normal in calibre until it reaches the anterior communicating artery. Thence it is continued as a small branch which is stretched over the tumor, while its main current continued through the connecting vessel into the right anterior cerebral artery. The latter continues as a large trunk as far as the genu of the callosus where it divides into two vessels which supply the two medial surfaces of the hemispheres.

A portion of the base of the skull including the origin of the tumor is now removed for examination. The bony prominence is about 3.5 centimetres in general lateral extent, and is raised above the surface about 1.5 centimetre. The remainder of the orbital plate is roughened, and pitted by absorption as before mentioned. The pituitary fossa is rather large, and the right sphenoid cell is larger than usual and filled with thick mucopurulent secretion; the left cell is normal. A portion of the nasal mucous membrane revealed is covered by polypoid excrescences.

The brain and tumor are placed in preserving fluid



FIG. 5. View of the portion of the bone over which the tumor grew, including the roughened portion of the orbital plate and the middle cerebral fossa.

ramified numerous tortuous bloodvessels. These vessels, so far as could be determined, had been continuous with the dilated dural veins in the vicinity of the origin of the growth. They did not anastomose with the pial veins lying in close proximity.

¹ Professor W. W. Keen has removed a tumor from the brain, weighing "over half a pound." He states that this is the largest tumor ever removed except one by Bramann, which was slightly larger. This information, conveyed in a letter to the writer, does not include the results of these surgical operations.

The cerebral arteries had been much displaced and stretched to their utmost; the callosum had been thrust upward and backward, and the anterior horns of the right lateral ventricle and the septum pellucidum were displaced backward. The remnants of the pia were still distinguishable at the bottom of the cavity and the cortex was still present, though much thinned.

The mental symptoms, early and profound dementia, may be explained by the encroachment of the tumor upon the supposed seat of the higher psychical functions of the brain. The absence of speech disturbance is correlated with the preservation of Broca's region of the left side. The motor region of the cortex and the capsule escaped pressure, accounting for the absence of paralyses. The complete loss of sight is accounted for by the pressure atrophy of the optic nerves and chiasma, and the sense of smell was of course completely abolished, though on account of the extreme

A CASE OF ASCENDING MYELOMALACIA CAUSED BY A PROGRESSING VENOUS THROMBOSIS.

By MAX G. SCHLAPP, M. D.,

NEW YORK,

LECTURER ON PATHOLOGY AND INSTRUCTOR IN NEURO-
PATHOLOGY AND NEUROHISTOLOGY, CORNELL
UNIVERSITY MEDICAL COLLEGE.

Much has been written about the different forms of myelitis and the secondary conditions resulting from these types of inflammation, but with the exception of Wyss's case¹ and a case reported by Sachs² in 1904 little or nothing is found in the literature concerning primary myelomalacia, nor does it seem to be recognized as a clinical entity as is en-

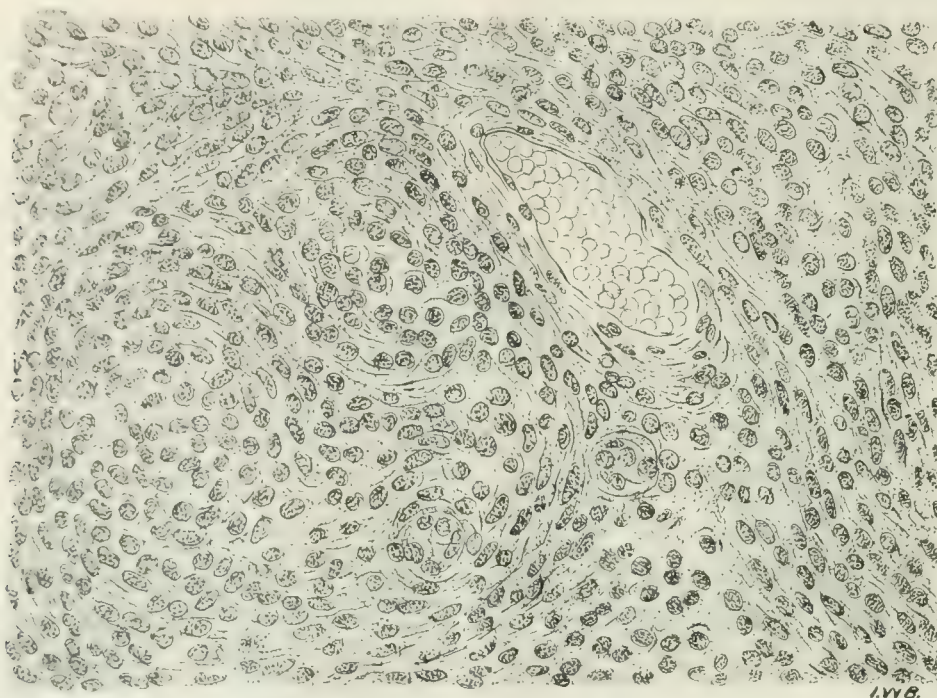


FIG. 6. Spindle-celled endothelial sarcoma. The field shows the early development of the cell whorls in small centers, and bands of cells arranged longitudinally traverse the section. A large blood vessel with fibrous walls is shown. The fine stippling is used merely for shading, as the cell bodies are not granular with this amplification. $\times 300$. Reduced one eighth.

dementia of the patient it was difficult to test. Other special sense centres and cranial nerves were unaffected so far as could be determined.

Microscopical examination of the tumor: The growth is composed of delicate spindle cells lying in close apposition without appreciable intercellular substance, so that individual cells are extremely hard to outline. There is a distinct tendency to concentric arrangement of the cells, but the cell spherules are not hyaline. Bands of cells also run in longitudinal direction and these are occasionally cut transversely and obliquely. The formation of fibrous tissue seems to be confined to the vessel walls, some of which are thick and fibrous and some are composed merely of flattened cells, forming blood channels among the cells. The nuclei of the cells are uniform in size and oval in shape. In transverse section they appear round and the cell bodies cannot be differentiated. The cytoplasm of the cells is homogeneous with even high amplification. The general structure of the growth is seen in Fig. 6. (The fine stippling of the cells is used for shading as the cell bodies are not granular.)

cephalomalacia. This is partly due to the fact that myelomalacia occurs less frequently than does encephalomalacia, and when it does occur, it is not recognized as myelomalacia clinically, but is classed as a myelitis.

The following case shows a group of symptoms which are sufficiently characteristic to warrant the diagnosis of myelomalacia which the pathological examination indicates to have been the true nature of the spinal lesion.

The case was referred to me by Dr. William Greef, who, with Dr. Johnson, of Brooklyn, was in immediate charge of the patient:

CASE.—The patient is a lumber merchant, forty-eight years old, married, has one child, twenty years old, living and well. With the exception of an aunt on the father's side, who had paralysis of the legs in her old

¹ Wyss, O., Beiträge zur Pathogenese gewisser Rückenmarkserkrankungen (Gliom). *Correspondenzblatt für Schweizer Aerzte*, 1899, p. 110.

² Sachs, B., Some Unusual Forms of Acute Myelitis. *Transactions of the Association of American Physicians*, 1904.

age, the cause of which was not known, the family history is negative. Patient in his youth always enjoyed good health, his habits were good, never smoked, and drank very little. When thirty-six years old he had a short attack of gonorrhœa, but denies having had syphilis. At the age of thirty-seven he had a very severe attack of pneumonia, from which recovery was complete.

For the past two years patient has not been well, but his symptoms could not be traced to any definite disease. While superintending some railroad work in the South, in June of 1902, he was taken ill with chills and fever for which he took thirty-six grammes of quinine daily for six weeks. After the acute condition subsided, he complained of a stiff neck and night sweats, which lasted for about two months.

Some time in April, 1903, while working in an orchard he fell and struck his left testicle against the limb of a tree. The testicle became much inflamed and

Inguinal glands slightly enlarged, not to any appreciable extent in other regions. The heart is not enlarged, sounds clear, action feeble; the examination of lungs is negative. The liver is not felt below the free border of the ribs. The spleen is not enlarged. The physical examination of the other abdominal organs is negative, and no irregularities are observed along the spine. The pupils are equal, of median size, react to light and accommodation. The movements of the eyes are normal, also the visual field. No changes seen in the retinae or optic nerves. The tendon reflexes are exaggerated in the legs. Ankle clonus is present, but no patellar clonus; while the Babinsky reflex is present on both sides. The cremaster and abdominal reflexes are present, and the reflexes of the upper extremities are normal.

Sensation. General sensation is diminished in both feet, this area of hypoesthesia extending about two inches above the malleoli. A similar area of hypo-

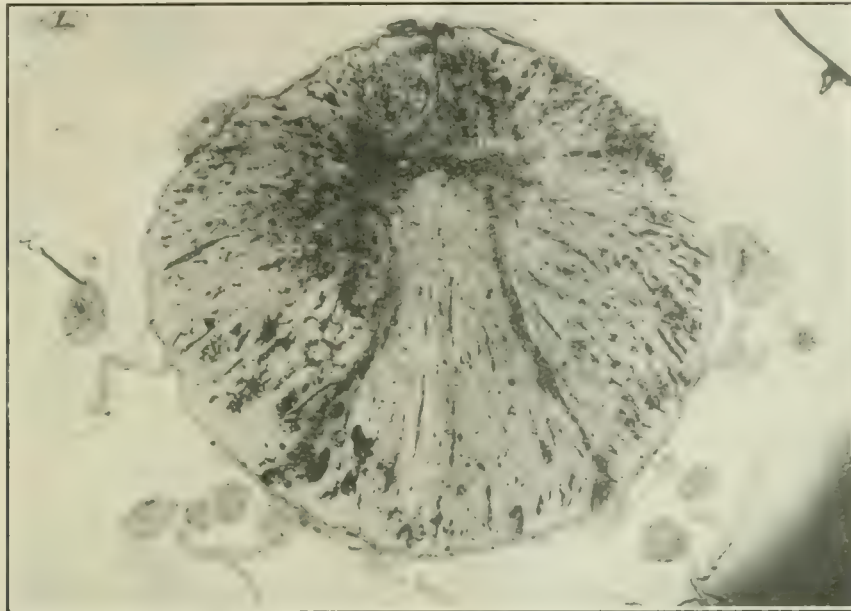


FIG. 1.—Photograph of a transsection of the cord in the dorsal region showing numerous and extensive hemorrhages throughout the whole cord. Here and there a thrombosed vessel is seen. A partial thrombosis of a large vein is clearly seen in a nerve root on the left side of the cord (a).

greatly enlarged, but was not painful. The size of the testicle not diminishing, he consulted a surgeon who advised an operation. Four months after the injury an operation for the removal of the enlarged testicle was performed. After the operation the patient was told that the lesion was tuberculous. The wound healed very quickly, and the patient felt well until four weeks later when he began to feel a pain in the back along his spine, extending from the lumbar to the upper cervical region. This pain continued through his illness up to the time of his death. On September 30, 1904, seven weeks after the operation, the patient took a long drive over rough roads to inspect some mining property. That evening after returning from the drive he began to feel very ill, vomited, and while lying in bed felt a numbness in his legs, extending from the toes to the knees. The day following, still remaining in bed, he noticed that in passing his urine or feces all sensation was gone.

On the 2nd of October, his condition being the same, he came on to New York, and on the 9th he came to me for examination.

Status Præsens.—Medium sized man, very anæmic in appearance. Skin loose with very little adipose tissue. No scars visible on body excepting one resulting from the operation, which is smooth and clean.

æsthesia exists about the anus, extending forward to the anterior border of the scrotum and partly on to the ventral surface of penis. Nowhere is there total loss of tactile or pain sense. On a level with the twelfth dorsal vertebra there is an area two inches wide extending around the body, which is very hypersensitive.

Motor function. The legs are weak, but there is no paralysis. Arms and other parts of the body show no disturbance of motor function. Subjectively the legs feel weak and numb, and he complains of a pain along the spine, particularly in the lower dorsal region, which is not increased by the application of a hot sponge, Faradic brush, or by percussion of the vertebræ in this region.

The urine contains a slight trace of albumen. Temperature, 97.6°; pulse, 90; respiration, 18.

Diagnosis.—Myelitis, involving incompletely and irregularly the lower segments of the spinal cord.

The patient's condition grew rapidly worse, the pain in the back increasing, complete anæsthesia developing in lower parts of legs and spreading rapidly upwards, so that on October 12th the anæsthesia extended up to the superior spine of the ileum. On this date the right leg had become completely paralyzed, the left partially.

October 16th. Complete paralysis of both legs, including gluteal muscles. The reflexes are all missing in legs, and there is involuntary passage of urine and feces. On this day he complains of numbness and a tingling sensation in the arms, with marked weakness. Pain in the cervical region increases in severity.

October 17th. There is marked twitching of muscles about shoulder and in arms; the anæsthesia extending up to the third dorsal vertebra, decubitus appearing over sacral region, and troublesome cough developing.

October 18th. Severe pain continues in cervical region, numbness and weakness increasing in arms.

October 19th. Increased twitching of shoulder and arm muscles. Respiration is very shallow and irregu-

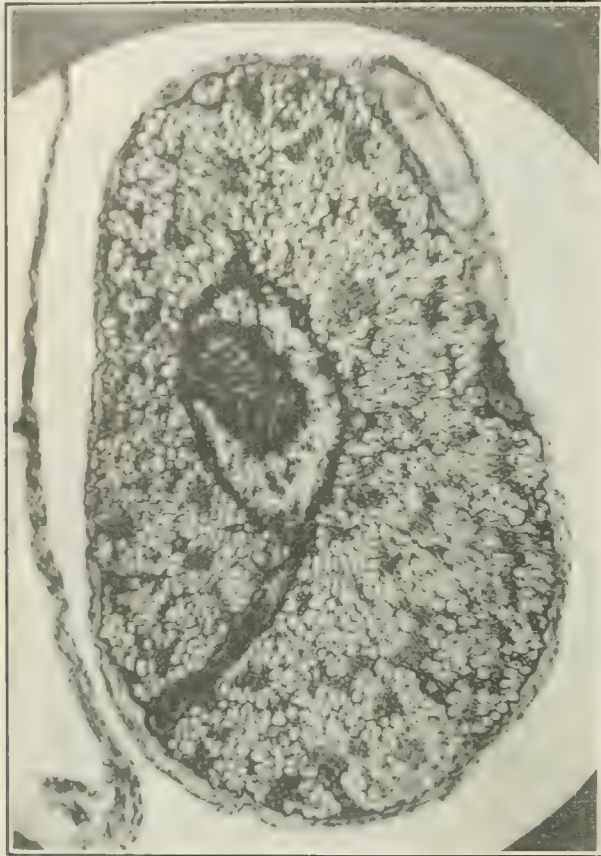


FIG. 2. Nerve cut marked a in Fig. 1, showing thrombosis of vein and oedematous condition of nerve fibres.

lar, pulse weak, and the cough becoming troublesome. Beginning pneumonia is observed in right lower lobe.

October 20th. Arms partially paralyzed, with incomplete anæsthesia. Breathing is irregular, shallow, and diaphragmatic, while the intercostal breathing is almost entirely absent. The patient is unconscious during the morning, but regains consciousness and remains so during the afternoon.

October 21st. The patient is delirious and unconscious during the morning, but conscious for a short time during afternoon. Cheyne-Stokes breathing and very shallow, pulse very weak. He is sinking rapidly. Respiration gasping during the early part of the night, and continues so up to death, which occurs 1.30 a. m., October 22nd.

Autopsy, October 22nd, 3 p. m.—Long, slender, poorly nourished body. Rigor mortis present. Post mortem lividity slight. Skin and visible mucous membranes markedly anæmic. Muscular system atrophic. Large decubitus over sacral region.

The peritonæum is normal, mesenteric and omental fat not very abundant. The diaphragm in usual position; the pleura, pericardium, and heart are normal.

Lungs. Both lower lobes are the seat of a hypostatic pneumonia. The middle lobe right side, and upper lobe of both sides are moderately congested and oedematous; the pulmonary vessels are normal.

Liver. Small, firm, surface coarsely granular, pale yellow in color, capsule thin and translucent. On section it shows coarse fibrous bands dividing the liver substance into smaller and larger lobules. Gallbladder contains a moderate amount of bile, the ducts are patulous. Spleen is slightly larger and firmer than normal. On section, a moderate grade of congestion, hyperplasia of spleen pulp.

Kidneys. Large, consistence firm, surface brownish red in color and finely granular. A few minute punctate hæmorrhages are visible. Cortex thickened, brownish red in color. Congestion of pyramids. Suprarenals are normal. Ureters and bladder are normal; also the remaining testicle. Gastrointestinal tract and pancreas are normal. The aorta shows a moderate grade of sclerosis confined chiefly to the abdominal portion.

Head. Skullcap mesocephalic. Weight and thickness normal.

Dura mater. Nonadherent, dural vessels injected. Superior longitudinal sinus contains a small amount of clotted blood. Internal surface of dura is smooth and glistening. The meningeal vessels are injected, the basilar vessels unaltered. Brain substance is apparently normal. Pia mater is normal.

Cord. Bloodvessels are injected. Thickness of cord seems somewhat less than normal. Consistence very soft. Transsections made throughout the cord at intervals of about one centimetre show a marked hæmorrhagic appearance involving the white as well as the gray matter, and extending from the fourth lumbar to the fifth cervical segments.

Cultures were taken from the tissue of the cord on blood serum and on agar, with negative results. The brain and the cord were placed in a ten per cent. formal solution. A few pieces of the cord were hardened in alcohol. The sections were stained with hæmatoxylin and eosin, hæmatoxylin and acid rubin, neutral red, thionin, and Gram's method.

Microscopical Examination.—Throughout the tissue of the cord, in white and gray matter, large and small hæmorrhages are seen in which most of the red blood corpuscles are well preserved, and only here and there a little blood pigment is seen. This hæmorrhagic condition is found extending from the lower lumbar to the fifth cervical region, gradually tapering off at both ends to the tissue showing no hæmorrhages.

The bloodvessels are all very much distended in the meninges, as well as in the cord, but the hæmorrhages are confined to the tissue of the cord, and are not found around the bloodvessels of the meninges.

The nerve tissue in the hæmorrhagic region of the cord is almost entirely destroyed. The nerve fibres are totally missing in some places, leaving vacuoles to show that they once existed. In other places, fragments of nerve fibres are seen, broken pieces of axis cylinders, round homogeneous globules staining with hæmatoxylin, which are very likely disintegrated myelin substance.

In some areas of the white matter, where the sun-dial picture of the nerve fibres is preserved, the space occupied by the myelin substance varies much in size, some fibres show marked distention of this space, to three or four times the normal size, others again show a contraction of the space.

The glia network and cells are broken up into small fragments in some areas, while in other places the network of glia is present, containing proliferating glia

cells and a homogeneous coagulum. This coagulum seems to spread out into the tissue from the bloodvessels.

The walls of the bloodvessels are not thickened to any extent, more than is caused by the exudation. Most of the smaller veins, and many of the larger ones, are partially or completely thrombosed. In the walls of and surrounding the bloodvessels are found large numbers of cells of different character, few polynuclear leucocytes, more lymphocytes, and in large numbers, especially in the gray matter of the cord, large epithelioid cells. All these cells, including the glia cells, show distinct changes of necrosis. In and around the meninges there are some proliferating cells, but none of them show any of the above mentioned signs of degeneration or karyorrhexis.

Throughout the gray matter of the hæmorrhagic area of the cord, very few nerve cells are seen, and those present show the most marked changes of degeneration; fragments of cell bodies surrounding small and intensely stained nuclei (hæmatoxylin and eosin). Methylene blue or thionin shows complete tigrolysis in the stichochrome cells where cell body is present, otherwise vacuolization and breaking up of cell body.

Above the hæmorrhagic area, extending up to where the nuclei of the posterior columns begin to develop are seen marked changes in the gray as well as in the white tissue. Around the bloodvessels are a few polynuclear leucocytes and some lymphocytes. Many of the veins, particularly the smaller ones, are thrombosed. Epithelioid cells are scattered throughout the gray and the white matter, more numerous in the former. Many nuclei of these cells and of the glia cells show different stages of karyorrhexis. The white matter is undergoing distinct changes of necrosis. Edema is marked, many of the nerve fibres being swollen to three or four times their normal size, with the myelin substance broken up into small fragments or surrounding the axis cylinder, which has a lateral position in this distended space of the nerve fibre. Here and there are groups of round lightly colored homogeneous bodies. The large nerve cells all show marked degenerative changes, eccentric position of the nucleus, tigrolysis, vacuolization in the cell body, and some nuclei with small pieces of the cell body remaining.

These changes diminish as we ascend to the upper cervical segments, and are absent in the region of the lower olivary body. The nerve fibres of the spinal cord show degenerations, which are most marked in the anterior nerve roots, and are well shown by the accompanying photograph of a transection of a nerve root.

Epidictical.—Up to the year of 1902 nothing occurred in the patient's life that could have had any bearing upon the case. The illness in June, 1902, seems to have been malaria, and the stiff neck and night sweats were very likely due to the weakened condition in which the patient found himself after this illness, or to cinchonism. Between the time of the last definite symptoms of that illness and the time of his injury, seven months had elapsed. During this time no symptoms of tuberculosis or any other disease were manifest. It was impossible for me to obtain any definite information regarding the nature of the lesion of the testicle, although the surgeon in a western town told the patient that it was tuberculous. The size of the testicle, however, was much larger than is usually associated with tuberculosis, and indicated rather that form of chronic orchitis which is marked by extensive hæmorrhage, thrombosis, and productive inflammation. Four weeks after the operation the patient's condition began to change, in that he began to feel a

constant pain in the back extending from the lumbar to the cervical region. With this pain continuing, he was obliged to take a long drive of twenty miles over very rough roads. Immediately after this shaking up the grave symptoms of the cord lesion began. Remaining in bed for a few days in Colorado, and feeling somewhat better, but not well, he determined to come to New York, which again exposed him to a severe shaking up. A few days after his arrival in New York he showed pronounced symptoms as stated. During the progress of the disease up to the fifth day before death, the temperature was almost constantly subnormal, and only on the second day before death did it rise to 101°-102°, which was unquestionably due to the terminal pneumonia.

All the symptoms pointed to a lesion involving all the structures of the cord, ascending and destroying all functions of the cord as it ascended, therefore differing from Landry's ascending paralysis.

The death of the patient, which occurred twenty-two days after the first definite symptoms of the cord involvement, was due to asphyxia caused by the paralysis of the respiratory muscles.

At the autopsy no lesion was found outside of the nervous system that in any way could have been directly associated with the spinal lesion.

The histological examination of the cord discloses a widespread destructive process progressing, as indicated by the clinical history, from the sacral and lumbar segments to the upper cervical region, during a period of twelve days. The destruction of tissue is most marked throughout the dorsal region, where numerous hæmorrhages are seen. In the cervical region the hæmorrhages disappear, but the necrosis of tissue and thrombosis of vessels continue to the upper cervical segments. The most striking feature of the lesion is the extensive thrombosis of the vessels, not only of the cord, but of the pia and nerve roots as well.

Nearly all the smaller vessels, and many of the larger ones, are completely occluded by solid masses of fibrin and agglutinated red cells, and this thrombosis is coextensive with the degenerative process in the cord, being well marked in the upper cervical region. In the dorsal region a transection has the appearance of an infarcted tissue. The lesion differs from an acute myelitis in several features; in the predominance of thrombosis of vessels; in the extent of the hæmorrhages; in the appearance of areas of coagulation, necrosis involving vessel walls and the surrounding tissue, in the presence of considerable areas of large epithelioid or granule cells such as appear in cerebral softening and in the comparative absence of exudation; while the entire absence of febrile disturbance during the clinical course of the disease is unusual in myelitis, especially when this lesion involves the entire cord. There was, of course, some exudation present, but some reactive inflammation constantly occurs in encephalomalacia without requiring the diagnosis of encephalitis.

The entire lesion differs histologically from any case of myelitis which I have seen, while it closely resembles that described by Wyss in a case in which he found thrombosis of the veins throughout the cord due to a tumor invading the veins in the lower dorsal region. The clinical picture in his case from the onset of the thrombosis to death was also strik-

ingly similar to the course of events in the present case. The case reported by Sachs showed a softening due to a thrombosis of the arteries, in consequence of which there was no hæmorrhage in the tissue, thus resembling the usual type of encephalomalacia, due to arterial thrombosis.

From these considerations I am inclined to regard the present case as an example of myelomalacia resulting from progressive marantic thrombosis of the veins, and believe that this condition may consistently be recognized as the spinal analogue of encephalomalacia, due to a marantic or primary sinus thrombosis. The clinical history presents several features which might combine to produce a marantic thrombosis, without, however, certainly demonstrating such an origin of the spinal lesion.

The spinal symptoms appeared so soon after an operation for enlarged testicle as to strongly suggest a connection between the process in the testicle and that in the cord. Such marked enlargement of the testicle following traumatism is usually due to a tumor or to a productive inflammation attended by extensive thrombosis and hæmorrhages, which tends to travel up the spermatic cord. The spermatic cord and the pelvic veins were not examined at the autopsy, but the anatomical relations render it extremely unlikely that a direct extension occurred from the spermatic to the spinal veins, and if the testicular lesion contributed to the spinal, it was more probably through factors which acted indirectly.

The general condition of the patient at the time of the operation and up to the beginning of his last illness was favorable to the development of a marantic thrombosis, since he was very anæmic and emaciated, and while in this condition was exposed to a severe shaking up on a long drive over rough mountain roads which was immediately followed by the appearance of definite symptoms. These two factors, marked anæmia and concussion of the cord, seem to have been sufficient to incite a thrombosis in the lower end of the cord which was possibly connected indirectly with an earlier affection of the testicle.

47 EAST SEVENTY-EIGHTH STREET.

REMARKS ON ACUTE INTESTINAL OBSTRUCTION.*

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The enormous mortality associated with intestinal obstruction must be my excuse for bringing its consideration before you. In spite of the constantly recurring discussions in our medical societies, in spite of the volumes which have been written, the lesson has not been learned that prompt action means life, delay means death. I have seen men high in the profession, men who fully understand the theory of the disorder, hesitate and temporize, although the picture was as plain before them as Nature could paint it. They seemed to lose their comprehension of broad principles in the contemplation of the concrete case. Apparently there is an unreasonable fear that the operation may not dis-

close the suspected condition—and yet, I do not recall a single instance in which the diagnosis was not confirmed at the section so far as the fact of obstruction was concerned. To be sure, the exact pathological condition cannot always be predicted, other disease very frequently simulating anatomical obstruction. The most frequent of these is septic peritonitis with visceral paresis. Here, however, the need for relief by emptying the distended and turgid intestine is just as urgent as if there were a true noninflammatory mechanical bar. The condition in such cases may be easily understood by filling a jar with flaccid rubber tubing and forcibly distending the tubing with air. A number of kinks or angulations will form which completely obstruct the lumen and the greater the pneumatic force which is used the more impassable become the obstructions. In the living abdomen the stasis in the paralyzed intestine permits fermentation with gas production, so we have a condition quite analogous to the tubing in the jar. To illustrate this state of affairs I will briefly report a case:

CASE I.—S. D. G., a man, thirty-nine years of age, had been operated upon for acute appendicitis with diffuse peritonitis. Following the operation there was immediate relief, but forty-eight hours later distention and vomiting set in. Within six hours the patient was again anæsthetized and after examining the wound and finding it well walled off from the general cavity of the abdomen another incision was made, a median sagittal one, above the umbilicus, at the point of greatest distention. Free purulent fluid was encountered and the small intestines were found tensely distended. The worst coil was selected, incised, and a rubber drainage tube fastened in with a pursestring suture. There was apparently no peristalsis, only a moderate amount of fluid escaping at the time, but within the next few hours the gut began to contract freely and in forty-eight hours more the opening was closed by suture without anæsthesia. No band or kink had been loosened, yet the cure was prompt and permanent.

Another recent case will illustrate the necessity for early interference in postoperative obstruction:

CASE II.—A girl, thirteen years of age, was attacked with severe appendicitis. The perforated appendix was situated low in the pelvis and there was well marked seropurulent spreading peritonitis. Operation gave relief, but a pelvic abscess had to be incised through the rectum about eight days afterward. Following this the case ran smoothly for a week longer and the wounds had progressed well toward healing when, following the first relaxation of vigilance as to diet, there came an attack of vomiting at 2 o'clock in the morning. An enema was followed by a small movement and some flatus, but the vomiting continued, an anxious facies appeared and other enemata were without effect. By 11 o'clock, nine hours after the very first sign of distress, there was visible peristalsis and the patient was at once prepared for her third and most serious operation. Exactly twelve hours after the first sign of the trouble a median laparotomy below the umbilicus was made. The presence of the pelvic abscess led me to believe that the trouble would probably be found low and sure enough, a thick band of omentum adherent in the pelvis had formed a bridge underneath which several coils of gut had become strangulated. Here, too, enterostomy was done and the patient made a beautiful recovery.

Still a third postoperative case is worth mentioning here, because the obstruction occurred nearly a year after the original operation and had continued

* Read before the New York Academy of Medical Society of New York, February 27, 1906.

for forty-eight hours before surgical relief was afforded:

CASE III.—The patient, F. H., a man of thirty-eight, had been operated upon about nine months before for a ventral hernia following appendicectomy. Firm belching had followed in spite of suppuration. For some months there had been occasional slight cramp-like pains in the abdomen, but never an attack bad enough to send the patient to bed. One night after having eaten a raw apple, an attack of vomiting came on with severe cramps. There was no fever. The pain was most marked in the right upper quadrant of the abdomen, but there was no tumor and no rigidity. The pulse in twenty-four hours had run up to 116 and the vomiting had continued but was not of a violent or projectile character, the patient merely bringing up a drachm or two of clear, neutral fluid every few minutes. Lavage of the stomach relieved him for a time, but the belching and regurgitation soon returned. The cramps had been accompanied by borborygmi. Cathartics had been given shortly after the onset of the trouble, but they had failed to act. The rectum was absolutely empty. I saw him first, in consultation, twenty-four hours after the beginning of the trouble, and in view of the past history, together with what seemed to me a very clear clinical picture, I advised operation. In this attitude I concurred with the family physician, and the surgeon in charge was quickly won over to our way of thinking. The friends of the patient, however, desired still another opinion so an eminent gentleman was called in—and gave it, advising further delay. Another day was thus lost, but by great good fortune it was still possible for the surgeon to relieve the obstruction, which proved to be a band of adhesion, and the patient recovered.

In this case the picture was decidedly blurred by the gastric lavage which controlled the vomiting, not the regurgitation, to a considerable extent. And here let me call attention to the important fact that this invaluable procedure is out of place before the diagnosis has been made. It is quite as bad as morphine in masking the symptoms and may be responsible for fatal delay in operating.

Colicky pain, vomiting, and absence of abdominal rigidity should excite suspicion, the more so when occurring in an individual whose bowels have been in the habit of moving regularly. In such a case rather than give cathartics by mouth one should administer a high enema of half an ounce of inspissated oxgall (not the powdered kind), a pint of peppermint water, 4 ounces of glycerin and a drachm of turpentine. A little gas may pass even in the presence of obstruction, provided the lesion is situated high in the intestinal tract, and possibly a movement of considerable size may follow. The gas is not usually offensive, however, and the quantity is not large. The sudden escape of much foul gas means that the obstruction has been overcome. Even the odor of the peppermint will not cover the stench if true relief has been afforded.

Within a few hours if no improvement, there is belching, regurgitation of fluid, at first clear, then greenish and then brown. Actual fecal vomit appears in low obstructions and very late in the disease. The pulse becomes rapid, indicanuria is marked and the face rapidly assumes the indescribable pinched, hollow eyed look which will develop into the Hippocratic countenance. The temperature is, as a rule, normal or but slightly elevated. A second enema should now be administered with the pelvis of the patient well raised.

The rectal examination, which should never be omitted, will show complete emptiness and flaccidity. If the patient is a woman the pelvic organs should be examined in every case. If for any reason it is not possible to operate now, careful watch should be kept for visible intestinal peristalsis, which is the final confirmatory symptom, after which there must be no delay. If, on inspection or on placing the hand lightly upon the patient's abdomen, distended coils are found without peristalsis the distension has probably been so great or so long continued that paresis has set in. The prognosis is then grave indeed.

The presence of a hernia or the history of a hernia which has been reduced with some trouble a few hours before may be suggestive, while a laparotomy scar should always call for a careful history not only of the disease for which the operation was performed, but for a description of the course of healing and a clear statement of the patient's condition after the operation.

Naturally the most obscure cases are those in which there is no history of previous abdominal disease. And it is wise not to try to make too fine a diagnosis. The presence of obstruction is sufficient to place the case in the category of surgical diseases. I do not wish to be understood as advising or countenancing careless and slipshod methods. On the contrary, every effort should be made to be accurate, but not at the expense of time. Thus, vomiting, cramps, blood or bloodtinged mucus in the stools, with no fever and a normal leucocytosis might mean, especially in a child, surgically reducible intussusception, but in an adult it might also mean sudden obstruction by some preexisting tumor of the bowel.

I will not catalogue all the varieties of obstruction, as these may be found in any of our textbooks on surgery, but I will call your attention to one form of the disease which is probably more common than has been supposed. It has without doubt often been classified as fecal impaction, although it is a true mechanical obstruction. I refer to angulation of the sigmoid, which has recently been described by Delatour (*Annals of Surgery*, November, 1905). The sigmoid flexure, especially if it be of the long or redundant variety, becomes filled with feces and sagging down a sharp angle is formed at the lower attachment of the flexure. This form of obstruction may be relieved by enemata, provided they are given with the hips of the patient well elevated. If this precaution is not taken the fluid will hardly find its way above the angulation, and any fluid which does pass the obstruction is retained and only adds to the drag of the already overweighted intestine. The disease is more apt to become serious in individuals suffering from intestinal atony, especially in the aged. I mention this here because enemata and intestinal lavage in cases of obstruction are too seldom employed with the patient in the proper attitude to make the procedure effectual.

I may perhaps be pardoned if I give here also a brief report of one of the more unusual forms of acute obstruction in which the complete diagnosis was only possible on careful postmortem examination:

CASE IV.—A man, twenty-three years old, and previously healthy, was admitted to my service at Mt. Sinai Hospital with a diagnosis of appendicitis. I

happened to be in the hospital at the time and on examination, by inspection only, was able to diagnosticate obstruction of some sort because of the enormous size of the coils of intestine visible through the abdominal wall. The patient stated that one week before admission he had begun to have cramp like pains in the abdomen which his physician had tried to relieve by administering enemata and cathartics. There had been no fever for the first few days. The patient had vomited not oftener than once or twice a day, while the cathartics had been ineffectual. His pulse was slow, his temperature 100° F., his tongue moist. In spite of the obvious coils of intestine there was no visible peristalsis even on manipulation. There was slight pain and tenderness in the left hypochondriac region and in the right iliac region.

The patient was at once removed to the operating room, the stomach was emptied by lavage, and a considerable amount of rather foul but not faecal fluid was evacuated. Through a short right iliac incision between the fibres of the rectus, a small quantity of bloody serum escaped, and a distended cæcum was encountered. Realizing at once that the stoppage must be below this point I packed the external wound and made a median incision extending from about two inches above the umbilicus to two inches below it. The transverse colon was tremendously distended, as was also all visible small intestine, the viscera crowding out at the wound in such a manner as to make it very difficult to prevent complete evisceration. The general distention was so great that exploration without emptying the intestine was out of the question and accordingly several quarts of fluid were removed through two incisions in the small intestine, when it became possible to explore along the distended colon toward the splenic flexure. Nothing abnormal could be felt here, but on withdrawing the sigmoid, which could now be done, that organ was found to be absolutely collapsed, flat and tape like. The obstruction was then evidently at the splenic flexure, and I believed that it might be due to some constricting band. The patient's condition, however, became very serious and I determined upon median colostomy, deferring any radical procedure until recovery from the shock.

He did not react from the operation, however, dying in fourteen hours, and at the post mortem examination performed by Dr. Libman, the obstruction was found to have been caused by a small band of omentum which had passed through an opening in the diaphragm, forming an irreducible diaphragmatic hernia and tightly constricting the colon at the splenic flexure. I have scarcely a doubt that had this unfortunate patient come to the operating table three or four days earlier his life would have been saved.

I will close this paper with a few hints on the technics of operations for acute intestinal obstruction. General anæsthesia is to be preferred to local anæsthesia except in the case of patients who are almost moribund. Preoperative gastric lavage should always be practiced. If there is a mass, make a small incision over it and explore with the finger. If it becomes obvious that this mass is the cause of the trouble the incision may be enlarged and the operation proceeded with. If there is no mass and no point of greatest tenderness, a small median incision should be made. Distended gut will be encountered. Collapsed gut, if present, may not be at once found. If the acute form has occurred as the terminal complication of a chronic obstruction, there will be enormous hypertrophied as well as distended intestine. I have seen ileum twelve inches in circumference in a case of ileocæcal carcinoma, and yet the tension was not as great as that in distended

intestine of much smaller size following acute obstruction. If there is distended large intestine the location of the obstruction may be guessed at once within a few feet. If large intestine is collapsed and small intestine alone distended the search may be more troublesome, and it may even be necessary to work upward from the ileocæcal valve along the small intestine until the point of obstruction has been reached. It is of the first importance to locate the obstruction; its accurate diagnosis may come later.

If gut is under very high tension it is dangerous to manipulate it. Such gut had better be emptied at once and the obstruction sought afterwards. The emptying of distended gut is a delicate operation and must be performed with great care in order to avoid soiling the peritonæum. I usually put in a preliminary pursestring suture and make a knife puncture within the area surrounded by the suture, selecting some coil of intestine which may be drawn outside of the abdomen. The patient is held upon his side and the fluid runs directly out of the intestine into the pus basin. Having emptied as much as possible of the intestine in this way by carefully milking the fluid toward the opening, the suture may be tied, closing the aperture. This procedure may be repeated at two or three points if necessary. The danger in evisceration of the heavy distended gut is injury to the mesentery. Having evacuated the intestine to a safe degree, careful but rapid search may be made for the obstruction, and now the best judgment of the surgeon must come into play in determining whether to treat the case radically or to make a temporary enterostomy or colostomy. The latter procedure should be reserved for the most desperate cases only.

A method has recently been described by J. W. Elliot (*Annals of Surgery*, November, 1905) which seems to combine the advantages of the radical procedure with those of temporary enterostomy. He draws the affected loop through the abdominal wound, sutures it to the parietal peritonæum, packs gauze into the wound and then ablates the diseased part, suturing together merely the mesenteric attachments of the two legs of the loop to make subsequent anastomosis easier. The patient is then put to bed and in a few days, in fact during convalescence, the anastomosis is completed. In the cases of obstruction by inoperable growths, side to side anastomosis of distended with collapsed intestine may be of great value.

Just a few words in conclusion. Death from obstruction is rarely if ever due to the mere fact that the bowels do not empty themselves. It is usually due to strangulation with peritonitis in which the distension plays an important rôle. Nonoperative recovery is not an impossibility in rare cases, but we should disregard this very remote possibility and operate as soon as the diagnosis can be made. Visible peristalsis is an important indication of obstruction, while visible coils without peristalsis indicates paresis of the intestines. Hiccough and the frequent regurgitation of fluid from the stomach, even though this fluid be neutral, nonirritating and clear, is of grave prognostic import. Gastric lavage should never be practiced before making the diagnosis and laying out the plan of action.

THE VASOMOTOR FACTOR IN ASTHMA.

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In an article entitled "The Food Factor in Asthma," published in the *New York Medical Journal* (September 10th and September 23d, 1905) I have briefly reviewed the evidence which can be brought in support of the view that (1) asthma in some cases depends upon hyperpyræmia, that is, an accumulation in the blood of unoxidized carbonaceous material which is beyond the capacity of the physiological decarbonizing processes, and (2) that the recurrent paroxysms tend to disperse the accumulation, and may therefore be regarded as ultra-physiological reinforcements of inadequate physiological function, as *pathological functions*, in short. Brief reference was also made to the vasomotor theory of the mechanism of asthma. In the present article it is proposed to elaborate this theory and to review the evidence on which it depends.

It has been maintained by some that asthma depends on spasm of the diaphragm, and it may be admitted that during the asthmatic paroxysm the diaphragm is in a state of more or less tonic contraction. Such contraction cannot, however, explain all the phenomena of the paroxysm. These are only explicable by assuming a widespread temporary diminution in the lumen of the bronchioles.

If we postulate a rapidly increasing diminution in the bronchiolar lumen, it is not difficult to see that practically all the essential phenomena of the asthmatic dyspnoea must follow. There is only one means by which the organism unaided can hope to antagonize in part the resulting obstruction to respiration. That is by an active enlargement of the whole thorax through strenuous contraction of all the muscles of inspiration. This occurs quite conspicuously. As long recognized, all the inspiratory muscles, both ordinary and extraordinary, are contracted to their utmost during the inspiratory portion of the asthmatic respiration; they are but slightly relaxed during the expiratory portion. Among the muscles of ordinary inspiration is the diaphragm, and its contraction may be regarded as secondary to the bronchiolar obstruction, as conservative and adapted to antagonize the diminution in the lumen of the bronchioles. It is indeed merely a part of the general inspiratory spasm.

On the other hand, the expiratory muscles, such as the abdominal, are stated by Starling to be quite flaccid.¹ This is easy to understand. The bronchioles are most patent at the end of inspiration when the enlargement of the thorax is greatest. They are least patent at the end of expiration when the enlargement of the thorax is least. Indeed at this point in the respiratory cycle there is imminent danger of collapse, as shown by the marked exaggeration of sibilant rhonchi. Hence the observation that during asthmatic paroxysm the pause between inspiration and expiration occurs at the end of inspiration, not at the end of expiration, as in normal breathing.

Thus it is only by maintaining the thorax in a condition of exaggerated inspiration and limiting the respiratory movements to a narrow margin on either side of this point that a passage of communication between the outer atmosphere and the air cells can be maintained at all. During asthma there is absolutely no expiratory effort. Expiration depends purely on the elastic recoil, and this recoil is grudgingly permitted by an extremely cautious relaxation of the inspiratory muscles. Expiration is not difficult, but it is slow and prolonged for the simple reason that the patient dares not suddenly or completely relax his inspiratory spasm. It seems clear, then, that in the asthmatic paroxysm expansion of the chest is essential and altogether salutary in its immediate influence.

So far the argument points to obstruction in the tubes; it does not help us to elucidate the nature of the obstruction. The obstruction must, of course, be temporary; it must also be rapid of onset and subsidence, and there are but two ways in which such an obstruction could arise: (1) There might be constriction of the tubes through contraction of their own muscular fibres; and (2) there might be turgescence of their lining mucosa through a special variation of vasomotor action. The further course of this argument points unhesitatingly to the latter.

In the view here taken, the special variation of vasomotor action, which constitutes the mechanism of the rapid and evanescent bronchiolar obstruction responsible for the asthmatic dyspnoea, is by no means, as is sometimes assumed, limited to the bronchial area. It is, on the contrary, a general variation of vasomotor action, consisting of widespread areas of vasoconstriction, combined with a more or less localized area of vasodilation.

VASOCONSTRICTION.—The vasoconstriction affects mainly the cutaneous area, more especially that of the extremities. The pallor and coldness, objective not less than subjective, of these areas during severe asthma has been widely noted. The radial is invariably small and small in proportion to the severity of the dyspnoea (Hyde Salter²). William Russell³ has noted that when asthma comes on the radial tightens up. At the cessation of the paroxysm the pulse immediately resumes its normal volume (Hyde Salter⁴). In all probability, then, the widespread vasoconstriction constitutes an essential portion of the mechanism of the asthmatic dyspnoea.

Incidentally it may be remarked that many of the initial symptoms, or asthmatic auræ, are explicable by vasoconstriction more or less generalized or localized. A generalized vasoconstriction in which the renal arteries did not share would fully explain the polyuria which, according to Hyde Salter,⁵ not infrequently precedes the dyspnoea. Various paræsthesiæ can be explained by vasoconstriction localized in the cerebral centres or at the periphery. Yawning is a common premonitory symptom of asthma, as of migraine and other paroxysmal neuroses; and yawning has been noted by Hughlings Jackson to depend on cerebral vasoconstriction.

¹ *on Asthma*, 1868, p. 72.

² *Lancet*, 1901, June 1, p. 1522.

³ *on Asthma*, 1868, p. 73.

⁴ *Id.*, p. 69.

⁵ E. A. Schäfer, *Textbook of Physiology*, vol. II, p. 312.

tion.⁶ Drowsiness invariably precedes a paroxysm in a few persons, and this also may depend upon cerebral vasoconstriction and consequent anæmia.

VASODILATATION.—The vasodilatation of the bronchioles cannot of course be seen, but its existence is rendered highly probable by the occurrence of visible vasodilatation in many other parts of the respiratory mucosa. In not a few cases the nasal passages are palpably blocked by vascular distention. Acute distention may often be observed in the pharynx. Storck⁷ saw the whole trachea and part of the right bronchus deeply congested. In hay fever there is conspicuous vascular distension of the nasal mucosa; and hay fever constantly passes into hay asthma.

Brodie and Dixon point out that the nasal mucosa is extremely vascular and contains a sort of cavernous tissue; but that the bronchial mucosa is thin and has a comparatively insignificant blood supply. Consequently they consider it unsafe to infer from vascular distention of the nose a similar condition of the bronchioles in asthma.⁸ But this argument includes an oversight. It would undoubtedly be unsafe to infer a proportionate degree of vascular distension in the bronchioles for such would almost certainly result in death. And we may ascribe the almost invariable recovery from the asthmatic paroxysm to the restriction of the bronchiolar vascular distention insured by the absence of cavernous tissue.

The mutual relations between the vasoconstriction and vasodilatation.—The interrelationship between the vasoconstriction and the vasodilatation of the asthmatic paroxysm can readily be understood if we view the vasomotor and vascular systems as a whole. To do so, however, it is essential that we be permitted to extend certain fundamental physiological principles to the domain of pathology.

It is admitted by all that during life the general or aortic blood pressure tends to be maintained at an approximately uniform mean height. But it is known that countless and ceaseless variations of calibre are occurring in all parts of the vascular system. It follows that "every variation in one part is compensated by a simultaneous and contrary variation in another part" (Leonard Hill⁹). This common knowledge may be applied to the vascular conditions in asthma. There is, as we have seen, a more or less generalized area of vasoconstriction, and a more or less localized area of vasodilatation; and these two contrary variations arise and subside simultaneously. Consequently we may regard them as correlative or mutually compensatory; the vasoconstriction tending to prevent a fall of general or aortic blood pressure from following the vasodilatation, the vaso dilation tending to prevent a rise of general or aortic blood pressure from following the vasoconstriction. Thus there tends to be maintained uniformity of general or aortic blood pressure. But such general uniformity is manifestly attained at the expense of localized uniformity of blood pressure. For it is certain that the local blood pressure peripheral to the vasoconstriction is reduced, and that the local blood pressure peripheral

to the vasodilation is increased. In less technical terms the blood is in great part shut off from wide superficial areas, and turned on with concentrated force and in larger quantity to the bronchial area. Hence it follows that in asthma the vascular distension of the bronchial mucosa *depends upon the generalized vasoconstriction not less than upon the localized vasodilatation*. This point which seems to me incontrovertible, has not so far as I know been brought out by any of those who adhere to vasomotor theories of asthma. Nevertheless it is of primary importance, if only for the reason that, unless it is fully realized, it is impossible to understand the rationale of the various means of relief from the asthmatic paroxysm—to appreciate the significance of the clinical tests to be now applied.

CLINICAL TESTS OF THE VASOMOTOR THEORY.—On the view propounded, the dyspnoea of asthma depends upon obstruction in the bronchioles; and the obstruction depends upon vascular distention in the bronchial mucosa. In this vascular distention there are plainly four essential factors: (1) a localized vasodilatation; (2) a generalized vasoconstriction; (3) the work done by the cardiac systole; and (4) the amount of blood in circulation. It follows that anything that increases any or all of these factors will tend to increase the dyspnoea; and that anything which diminishes any or all of these factors will tend to diminish the dyspnoea. These deductions will be found adequate to explain the action of most, if not all, of those agencies which have been found through observation and experiment to be effective in exacerbating or relieving the dyspnoea of asthma.

Temperature.—Cold locally applied tends to promote vasoconstriction. Hence cold to the surface, as in exposure to cold air or water, tends to increase the generalized vasoconstriction of asthma, and so to initiate or accentuate a paroxysm. Hyde Salter saw many cases in which cold to the surface and extremities deranged immediately the vascular balance of the bronchial mucosa and induced dyspnoea.¹⁰ Hence also cold applied to the bronchial mucosa, as in the inhalation of cold air, tends to diminish the localized vasodilatation of asthma and so to relieve the paroxysm. This is the explanation of the relief afforded by standing at an open window.

Heat locally applied tends to promote vasodilatation. Hence heat to the skin, as by hot fomentations to the chest (Graves¹¹) or better by immersion in a full length hot bath, relaxes the generalized vasoconstriction, and so gives relief from the dyspnoea of asthma. Hence also heat to the bronchial mucosa as in hot inhalation, markedly accentuates asthmatic dyspnoea. I have tried this experiment once and do not suggest a repetition thereof. Many asthmatics though free at the time suffer when first entering a heated room.

Manifestly the most efficient thermal means of relieving the asthmatic dyspnoea is by heat externally applied combined with cold inhalation. The exhibition of a hot air or vapor bath from which the face is excluded, while the patient breathes through an inhaler containing broken ice, will effectually relieve for the time being the most violent par-

⁶ *Lancet*, January 21, 1905, p. 174.

⁷ *Albutt's System of Medicine*, vol. v, p. 300.

⁸ *Transactions of the Pathological Society of London*, vol. iv, Part I, 1903, p. 21.

⁹ E. A. Schäfer, *Textbook of Physiology*, vol. II, pp. 81, 82.

¹⁰ *On Asthma*, 1868, p. 312.

¹¹ *Brit. Med. New, Syd. Soc.*, vol. II, p. 99.

oxysm.¹² Patients who are accustomed to stand at an open window at night should be warned to cover warmly the whole surface of the body, including the scalp. In this way they greatly multiply the relief which follows the inhalation of the cold air.

Fumes and Vapors.—These vary widely in their action with the individual. The vapor of burning sulphur in most cases accentuates asthmatic dyspnoea. But there are patients who obtain relief therefrom. Dr. Alexander Francis has a patient who, when attacked, is accustomed to go a journey in the London Underground Railway, his asthma always disappearing between Baker street and King's Cross, the most sulphurous section. In explanation of these contrary results, we may suppose that sulphurous acid may cause increased bronchial vasodilatation (*ubi stimulus, ibi fluxus*), or again bronchial vasoconstriction, according to personal idiosyncrasy.

Hyde Salter found the fumes of burning nitre paper one of the most efficient means of relief.¹³ It acts probably by causing bronchial vasoconstriction. And so also in part with other fumes such as those of stramonium and tobacco.

The rapid relief which follows chloroform inhalation is doubtless complex in nature. But there can be little doubt that in some cases chloroform acts by promoting direct vasoconstriction of the dilated bronchial area. Salter saw one case in which the first inspiration gave sensible relief long before the blood charged with chloroform could have reached the nervous centres,¹⁴ and in some cases chloroform inhalation disperses vascular distension of the nasal mucosa.

Adrenalin is the most powerful drug of all known local vasoconstrictors. Hence its marked and immediate influence in relieving the vascular distension and therefore the dyspnoea of asthma when inhaled in the form of a spray.¹⁵ But adrenalin is also a general vasoconstrictor, administered by the mouth or hypodermically, it causes vasoconstriction in wide areas throughout the body. The result is a tendency to rise in blood pressure, which in turn is held in check by vagus inhibition of the heart beat. Hence the general action of adrenalin is found efficacious in asthma.¹⁶ Both the general and local action of this drug seem inconsistent with the bronchial constriction theory.

The Nitrites.—Amyl nitrite and nitroglycerin have a pronounced action in promoting general vasodilatation. Hence both drugs will reduce directly the generalized vasoconstriction, indirectly the localized vascular distention, of asthma, and so relieve the dyspnoea. Their clinical use in asthma is too well known to call for special reference. Surprise has recently been expressed that adrenalin and amyl nitrite, drugs which act in diametrically opposite ways, should both have been strongly recommended in the asthmatic dyspnoea. Yet it is true that both are capable of giving relief. This cannot be explained on the bronchial constriction theory, nor on any vasomotor theory which takes into account only the dilated condition of the bronchial

vessels. But the explanation is simple when due allowance is made for the influence in asthma of the more generalized vasoconstriction, even if this amount in some cases to no more than the maintenance of physiological tone.

The simplest and most verifiable illustration of the reduction of vascular distention by either drug is seen in hay fever. In this affection there is, of course, visible vascular distention of the nasal mucosa, and the action thereon of adrenalin spray is known to all. But the vascular distension in hay fever may be dispersed with promptitude by the inhalation of one capsule of amyl nitrite. This does not seem to be generally known.

Morphine.—The marked relief which follows the exhibition of morphine, especially by hypodermic injection, is rightly held to be entirely consistent with the bronchial constriction theory of asthma. Nevertheless it cannot be denied that it is equally consistent with the vasomotor theory set forth in this article. Morphine may be presumed to exert a paralyzing action on the vasomotor system; indeed, its influence in causing cutaneous vasodilatation is well known.

Alcohol.—Much the same applies to alcohol, which Salter found the only remedy capable of giving relief in some cases.¹⁷ Alcohol markedly flushes the skin, thus lowering the blood pressure.

Dry cupping.—Salter found that four small-sized glasses close together over the bifurcation of the trachea always gave immediate relief in the worst attacks.¹⁸ I have found great relief follow the application of large glasses; indeed, the relief seems to be proportionate to the surface over which the air is exhausted and to the degree of exhaustion. It is clear that cupping induces a cutaneous vascular distention, and such may well be supposed to relieve the bronchial vascular distension.

Emotion.—Different emotions are associated with different vasomotor manifestations in the same individual; and the same emotions lead to different vasomotor manifestations in different individuals. For example, anger is most commonly associated with flushing, fear with pallor, but pallor may follow anger. Hence we find the emotions producing in asthmatics effects which are seemingly contradictory. Salter says: "Psychical stimuli, excitement, fear, or other violent emotion, are adequate to the immediate production of the asthmatic spasm."¹⁹ But again: "The cure of asthma by violent emotion is more sudden and more complete than by any other remedy whatever."²⁰ Salter thought that emotions act by causing a "diversion of nervous energy;" but I submit a *diversion of vascular pressure* affords a more tangible explanation of the facts.

Physical exercise.—The primary and secondary influence of exercise on asthma is exactly what we should anticipate from a consideration of its influence on blood pressure. The first effect of exercise is a rise of blood pressure (Leonard Hill). Hence the bronchial vascular distension, and therefore the dyspnoea of asthma is at first increased. But exercise prolonged beyond fifteen minutes re-

¹² Francis Hare, *The Food Factor in Disease*, 1905, vol. 1, p. 308 *et seq.*

¹³ *On Asthma*, 1868, p. 244 *et seq.*, also p. 374

¹⁴ *Ibid.*, p. 17.

¹⁵ Francis Hare, *The Food Factor in Disease*, vol. 1, p. 305.

¹⁶ *Ibid.*, p. 306.

¹⁷ *On Asthma*, 1868, p. 204 *et seq.*

¹⁸ *Ibid.*, p. 392.

¹⁹ *Ibid.*, p. 147.

²⁰ *Ibid.*, p. 210.

duces blood pressure (Leonard Hill).²¹ Hence exercise, persisted in, relieves the bronchial vascular distention, and therefore the dyspnoea. The further prolongation of the relief which follows exercise is doubtless due, as explained in my previous article, to the dispersion of hyperpyræmia. Manifestly physical exercise for the asthmatic should be prescribed in the intervals of the paroxysms; it should be commenced gently and gradually increased in severity.

Pyrexia.—The inverse relations between asthma and pyrexia have been referred to and ascribed to the inverse relation which necessarily obtains between pyrexia and hyperpyræmia. But they can be accounted for without dipping into humoral pathology. In asthma there is, as pointed out, a generalized vasoconstriction, and this, as has been argued, is essential to the development of the asthmatic paroxysm. But, with certain exceptions, the condition of the vessels in pyrexia is one of generalized relaxation. Hence the marked interceptive influence of pyrexia on recurrent asthma. The exceptions refer, of course, to pyrexias in which there is initial or recurrent vasoconstriction. Such not infrequently precipitate or even induce asthmatic paroxysms. Thus the onset of influenza, dengue, and malaria may be associated with violent asthma. Malarial asthma may replace, and be regarded as a modification of, malarial rigor, as argued in my previous paper.

Cardiac depression.—The vascular distention responsible for the dyspnoea of asthma, depends also upon the work done by the heart. Hence agencies which reduce systolic action will relieve asthma, and reversely. Many drugs have this action, for example, antimony, ipecac, lobelia, and tobacco. Speaking of these, Salter points out that they must be given in doses adequate to cause sickness and faintness.²² Just in proportion to the production of these symptoms is the relief of the dyspnoea, and in habitual smokers, and in those who have established a tolerance of tobacco, the beneficial influence of the drug is lost. The relief which follows an emetic is similarly explicable. Although Salter believed that asthma may be started reflexly through irritation of the gastric ends of the vagus, he insisted that the relief by an emetic is clearly not mechanical, as it comes on the moment the nausea is felt, before vomiting has occurred; moreover, it comes on when the emetic is given on an empty stomach.²³ The sudden systolic weakness associated with the nausea and vomiting is well recognized.

Hæmorrhage.—The vascular distention of asthma depends also of necessity upon the amount of blood in circulation. Hence hæmorrhage of any kind is capable of affording immediate relief from the dyspnoea. Many examples could be given. Salter states that hæmoptysis occurs during the asthmatic paroxysm, though infrequently, and that its amount is proportionate to the severity of the dyspnoea.²⁴ This in itself is strong evidence in favor of the vasomotor, as against the bronchial constriction, theory. But Salter omits to say—no doubt through inadvertence—that the occurrence

of hæmoptysis in any quantity terminates the dyspnoea for the time being. Yet this has happened invariably in my experience. And the same is true of bleeding from any other source, and of venesection.

I submit that the clinical evidence adduced in favor of the vasomotor theory of asthma propounded, as against that of bronchial constriction, is adequate. For it has been shown that the dyspnoea may be relieved by eliminating or modifying any one or more of the four factors primarily responsible for the postulated vascular distention of the bronchiolar mucosa.

But there is a further argument which is strongly confirmatory of this view. A large mass of independent evidence could be brought forward to show that most of the well known paroxysmal neuroses, for example, migraine, angina pectoris, gastralgia, and even some cases of epilepsy, major and minor, depend essentially upon vasomotor variations similar in principle to, but differing in detail from, the vasomotor variation responsible for asthma. And it could be shown that all such paroxysmal affections are interchangeable and mutually replaceable, not only in the family, but in the personal, histories of sufferers. But lack of space precludes further reference to this argument here. Those who wish to pursue it, I must refer to my recently issued work, *The Food Factor in Disease*, London, 1905.

In conclusion, the meaning and mechanism of many asthmatic paroxysms may be thus summarized:

- (1). Hyperpyræmia.
- (2). Widespread vasoconstriction compensated for by bronchial vasodilatation, or the converse.
- (3). Vascular distention of the mucosa of the bronchioles.
- (4). Obstructive dyspnoea.
- (5). Exaggerated combustion (catabolic expenditure).
- (6). Gradual dispersion of hyperpyræmia.
- (7). Cessation of the vasomotor variation.
- (8). Subsidence of vascular distention and asthmatic paroxysm.

WHAT CAUSES THE PYLORUS TO RELAX?

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Various physiological reports published in the last year or so by Dr. W. B. Cannon, of Boston, and other investigators well known for their accurate researches, have explained the periodical relaxation of the pylorus as due to the presence of hydrochloric acid in the stomach contents. This theory is an exception to the rule that careful scientific and clinical researches tend to support each other. Probably the first thought that occurred to every clinician upon reading these reports for the first time was that he himself had blundered woefully in his work, or else that the physiological investigators were entirely wrong, according to his innate modesty or self-assurance.

²¹ E. A. Schäfer, *Textbook of Physiology*, 1900, vol. II, p. 80.

²² *On Asthma*, 1868, p. 184 et seq.

²³ *On Asthma*, 1868, p. 267.

²⁴ *Ibid.*, p. 371.

In looking over my records, I find that in about one case in five the bread and butter and water test breakfast has not been obtainable one to one and one quarter hour after ingestion. In some of these cases, the extraction has resulted negatively two or three times consecutively, even when the bread was increased to 100 grammes, and then, when another trial yielded material for examination, the free hydrochloric acid was found entirely lacking or present only to the extent of two or three degrees by dimethyl. On the contrary, as is well known, cases of hyperchlorhydria tend to be isochymic although, in my personal experience, I have not found this rule to be so nearly absolute as has been commonly taught.

In making these statements, it should be added that my extractions are made with a tube nine millimetres in internal diameter and sometimes with a specially made tube, twelve millimetres in internal diameter, which cannot be passed in all cases. A fairly strong suction bulb is employed, sometimes supplemented with my tube stripper which acts on the principle of the Allen surgical pump. Alternate suction and inflation are practiced at various depths, and the stomach is not considered empty until proved so by lavage with a known quantity of water introduced from the bulb and immediately withdrawn. Also, I am by no means so ready to diagnose hyperchlorhydria as is now the fashion, insisting on an acidity of fifty per cent. for free hydrochloric acid, measured to the orange point with dimethyl (amounting to sixty to sixty-five per cent. to the point of complete decolorization) if the amount of chyme is small, or at least forty per cent. if it is increased in quantity, unless there is a large quantity of secretion added to the test meal; without much fermentation acidity when the absolute as well as the proportionate acidity must be considered. Thus, my tests are rigorous and it does not seem possible that there can be an error in the deduction that relaxation of the pylorus generally accompanies markedly reduced hydrochloric acidity and *vice versa*.

As I understand the physiological theory of the alternate opening and closure of the pylorus, the former is due to the irritation of free hydrochloric acid on the proximal side of the pylorus and the latter to irritation from the same substance on the distal side. That these chemical conditions exist normally is beyond dispute, indeed they are inevitable. But why they should be singled out as causes of the opening and closure of the pylorus does not appear to a clinician, even in connection with the differences in action of carbohydrates, fat, and proteid food in the stomach. As a side issue, may be noted the absence of a natural food that is nearly pure proteid, with the exception of white of egg.

There is no very close analogue to the pylorus elsewhere in the body. The cardia relaxes to admit any food; it has to, for obvious mechanical reasons, and we can scarcely suppose that it closes on account of a reflex on its distal side for it does so with water that drops to the greater curvature and that has no thermic nor chemical irritating action. So, too, it closes in experiments in which the article swallowed is immediately removed from the stomach. The ileocaecal opening is more of a valve than a sphincter. So far as it may be cited as an analogue, we may say

that, barring extraordinary conditions, there is practically no difference in the reaction of the mass proximal or distal to it respectively at different times, and none of decided degree and kind between the distal and proximal aspects. The anal sphincter opens normally to allow the exit of any proximal mass and the reaction is usually alkaline, at least on the outside, the interior being often or usually slightly acid, but even acid faeces usually pass it even more readily. Then, too, there seems to be no special reflex causing the closure of the anus excepting a natural provision when its necessity for opening is past. Certainly, there is no distal exciting reflex from the faeces.

In plain terms, the objections to the acid theory of the relaxation and closure of the pylorus are as follows:

1. The local changes in reaction are physiologically inevitable.
2. The relative acidity of the chyme is not diminished by the passage onward of a small portion, yet the pylorus does not remain patulous.
3. While this failure of a continuous relaxation of the pylorus may be explained by the distal acidity, it is in close analogy with the action of other alimentary sphincters, which close without any exciting reflex that can be ascribed to differences in chemical reaction.
4. Fully half the stomach contents normally escape before it is conceivable that any great proportion of hydrochloric acid is present.
5. Clinical experience with dietaries shows that, other things being equal, meals that call for considerable hydrochloric acid secretion usually remain in the stomach longer than those which do not.
6. Clinical experience with stomach contents proves conclusively that deviation from the normal standard of hydrochloric acid secretion produces just the opposite effect to what would be expected if this were the cause of pyloric relaxation. Even in achylia gastrica, there is no necessary abnormality of pyloric function, certainly not in the direction of retention.

As has been said, there is not the slightest reason for questioning the minutes of the experiments that have been used as evidence of the theory discussed, but we may reasonably ask that the investigation be continued to see whether specific differences in animals, or artificial conditions have not influenced the application to clinical medicine, or whether purely mechanical factors, as previously supposed, are not the essential cause of the action of the pylorus.

150 WEST CHIPPEWA STREET.

The Campaign Against the Rats in Rangoon.—The total number of plague cases for December was 98, with 91 deaths, against 113 cases and 110 deaths during November. The incidence of the disease was heaviest among the low class Hindu population. One hundred and thirty-two rats were examined, of which 27 were found infected with plague. Fourteen thousand six hundred and sixty-six rats were destroyed during December. Although the total number of cases was less in December than in any previous month since the outbreak of the epidemic in February last, yet no quarter of the Municipality was free from the disease during the whole month. The centres of the infection appear to be widely scattered throughout the municipal area.—*The Journal of Tropical Medicine.*

THE TREATMENT OF DIFFUSE AND GENERAL PERITONITIS, WITH SPECIAL REFERENCE TO THE MURPHY METHOD.*

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The treatment of peritonitis has always been a fruitful topic of discussion and dissension and will probably remain so, as the final chapter has not yet been written on this subject. Much advancement, however, has been made since the first introduction of the operative treatment, and it is concerning this progress that I would speak briefly.

Surgeons in their attitude toward a generalized peritonitis may be put into three classes. Those who do nothing in the way of operative interference, but simply keep the patient quiet and the stomach empty, until the inflammatory process and exudates have become localized, and if the patient lives until this has taken place, they then operate. The strongest advocate of this procedure is Ochsner, who reports unusual success in its employment. The next class is made up of those who believe in immediate and radical surgical intervention, consisting in freely opening the peritoneal cavity, breaking up all adhesions, opening all pockets, and thoroughly irrigating the entire peritonæum. The surgeon who practices this most consistently is Price. The third and more recent class believe that the abdomen should be immediately opened, the cause of the inflammation sought for and removed, and the abdomen thoroughly drained with the least possible disturbance of the viscera. Murphy has been the most ardent advocate of this method of treatment and has lately gained for it, by his excellent results, a large number of adherents, and among them I find myself. Of course all surgeons cannot be put in one of these three classes, as there are men who employ any one of these methods as they see fit in the individual case. It is undoubtedly foolish to adhere doggedly to any one line of treatment for all cases, and yet we must have firmly fixed general principles to guide us in the treatment of any particular disease.

All surgeons have probably tried the three methods of treatment outlined, and have reached their own conclusions regarding them. It has always seemed to me, however, that our failure to get the good results reported from certain lines of treatment, is because we do not carry them out as specifically as is recommended by their advocates: in other words, we, inclining possibly to the operative treatment, in employing the Ochsner method, do it half heartedly without expecting a good result, whereas Ochsner carries it out to the letter and expects good results. We have all seen a very incomplete and injurious irrigation of an abdomen done in cases of general peritonitis. Such treatment, unless it is carried out thoroughly and every part of the abdomen irrigated, can be of little benefit, if it is not definitely harmful, and this accounts for the

difference in results obtained at the hands of those who are enthusiastic over irrigation, and of those who do not look upon it with the same confidence.

This is altogether too broad a subject to be disposed of in a brief paper such as this, and probably the Pædiatric Society is not as much interested in the comparative merits of these different treatments as a body of surgeons would be. Therefore I will simply set before you the Murphy method of treating cases of diffuse and general peritonitis, and refer to my own experience with this treatment. Before going further, however, I ought to say that the operative treatment for this condition in children gives better results than it does in adults, and that the nonoperative, or Ochsner, treatment is not as successful in children as in adults, because of the difficulty in performing gastric lavage, the difficulty in giving large quantities of salt solution by the rectum, and because of the anatomical arrangements of the viscera in childhood, especially the shortness of the omentum which does so much in adult life to localize inflammatory processes.

Murphy, in April, 1903 (*Journal of the American Medical Association*, April 11, 1903), reported a case of typhoid perforation, and five other consecutive cases of general suppurative peritonitis in which the patients all recovered after the treatment which he recommends. Since then, at different times he has made contributions on the same subject, and last October I heard him say that he had had twenty-nine cases of diffuse or general peritonitis in which he had employed his method with but a single death, this one occurring from pneumonia on the sixth day. These figures without further statement at once challenge the attention of both surgeons and medical men, for we know that in this type of peritonitis the mortality is extremely high. After reading Murphy's paper, but before hearing him talk on this subject, I had discontinued irrigation in a number of cases where I had previously employed it, and had practised his method in a modified form.

For many years, after all abdominal operations, I have invariably given by the rectum from eight ounces to a pint of salt solution regularly every six hours, until the patient had recovered from the effects of the operation. Of late years I have used irrigation but a few times and think the results have been better. Not until lately, however, have I used the large quantities of salt solution which Murphy recommends, or simple drainage without mopping out the pus and exudate. Since hearing him speak on this method I have endeavored to carry out the treatment he recommends in these cases to the letter.

The treatment consists in making a small opening in the abdomen, closing the perforation, or removing the appendix, as the case may be, the introduction of a large drainage tube into the pelvis, placing the patient in a sitting posture of from thirty-five to forty-five degrees, and the administration of a quart of salt solution every two hours per rectum. This treatment is very simple, and yet it is practically everything that Murphy did in his twenty-nine cases. He says, "It is a fatal mistake to mop, wash, or handle the intestines or peritonæum. Then, too, the simple opening of the abdomen relieves the pressure under which the pus rests, and we know, all that is necessary to stop absorption from a pus accumulation in any part of the body

* Read before the Pædiatric Society of Philadelphia.

is to open the cavity and relieve the pressure. It is injurious and even dangerous to milk or handle an acute abscess; it is doubly so to handle an infected peritonæum, but the pressure should be relieved by opening it, allowing it to drain, and exposing the anaerobic flora to the air." Murphy has been so much impressed with the advantage of the sitting posture (Fowler) that he now has cases of peritonitis brought to the hospital in the ambulance, anæsthetized, placed on the table, and operated upon in this position.

It is remarkable how much salt solution is absorbed and how it increases drainage and elimination by the kidneys. As high as eighteen pints of water may be administered by the rectum in twenty-four hours and all retained; this is only accomplished, however, by elevating the douche bag but eighteen inches above the bed and allowing the solution to flow into the bowel very slowly. The rectal tube can be kept in position from twenty-four to forty-eight hours, Murphy states, without inconvenience to the patient. It is his custom also to allow the administration of water by the mouth.

Between July 1, 1905, and February 1, 1906, I have had eight cases of diffuse or general peritonitis, in all of which I have practised more or less rigidly the Murphy treatment. I have been careful to exclude from this list ten cases of perforation of the appendix with localized peritonitis occurring in the same period, and in which there was but one death, due to pulmonary phthisis and occurring several weeks after the operation. These cases also were treated after the method of Murphy. The appendix was removed in every case in both series. During the stated period I have not refused to operate in any case of peritonitis because of its far advanced condition.

In the series of eight cases of diffuse or general peritonitis there were three deaths: one occurred in a case of typhoid perforation, the operation being done thirty hours after perforation, permission to operate being denied by the parents up to this time. The patient died the following day. The other two deaths occurred in cases of general peritonitis due to perforation of the appendix. I am convinced, however, that no other form of treatment could have saved them. One of these patients was profoundly septic and the veins of the mesoappendix were thrombosed: when the mesoappendix was cut the veins could be seen distended with clot. Three days after the operation this patient had not had a bad symptom and gave every prospect of recovery, but on the fifth day he suddenly complained of pain in the abdomen, difficulty in breathing, and his pulse shot up to 140. A pulmonary embolism was thought of, but his condition improved and he did not die until the next morning. No post mortem was allowed. This death, I think, was due to septic thrombosis. The other patient at the time of his admission had a general peritonitis and was markedly septic. This operation took but eight minutes and the patient died twelve hours later. The remaining five of the eight cases recovered without interruption. There were four cases of general peritonitis due to perforated appendix and one case of perforated gastric ulcer. The latter case was operated on four hours after the perforation and the perito-

næum, though soiled with gastric contents down to the pelvis, was not in the septic condition of the other patients.

Five recoveries out of eight cases does not sound very encouraging, but if the three fatal cases are carefully considered it will be seen that they were in a desperate condition at the time of operation.

The following typical case of general peritonitis occurring in a child will serve to illustrate my remarks:

CASE.—L. D., thirteen years of age, was admitted to the Pennsylvania Hospital on December 30, 1905. He had been sick for several days before admission. At the time of admission the abdomen was markedly distended, very rigid, and tender. His temperature was high, and it was evident from his appearance that he was quite septic and that he had an extensive peritonitis. The abdomen was opened through the right rectum and there was immediately a gush of pus. The pelvis was filled with pus and there was no attempt at walling off anywhere, all the small intestines being bathed in the fluid. Some coils of the small intestine occupying the pelvis were covered with lymph. There was a large mass of pus also in the right kidney pouch. The appendix was short, gangrenous, and perforated; it lay in the right iliac fossa. Pus came from every part of the abdomen, and the boy's condition on the table was very bad. Three large gauze drains were inserted, one extending down into the pelvis behind the bladder, another into the right kidney pouch, and a third into the iliac fossa where the appendix had been. No stitches were put in the wound and the boy was sent back to the ward in the sitting posture. He was given large quantities of salt solution after the manner recommended by Murphy. I expected that this boy would certainly die within twenty-four hours, but, on the contrary, he made a good recovery. His bowels moved within a day or two of his operation, no laxative being given; the drainage from the wound was profuse, and, in fact, from the time he left the table his condition gradually began to change for the better. At the end of a week all the gauze drains had been changed and new and smaller ones inserted.

I believe that Murphy is entirely right regarding the harm which extensive manipulation and prolonged operation do in these cases of diffuse or general peritonitis, and that as soon as the source of the trouble is removed, simple drainage should be instituted. Murphy employs a drainage tube only, but I like gauze so much better that I have used it in all of my cases.

The two next most important items in the treatment consist in keeping the patient continuously after operation in the sitting posture; the elevation of the bed does not cause free drainage from the abdominal into the pelvic cavity, the thorax must be raised to at least thirty-five degrees in order to accomplish this. In the second place, the large quantities of salt solution which can be received and retained by the bowel do much to aid drainage, to overcome shock, and to aid elimination.

The practice of irrigating the peritonæum in cases of diffuse or general peritonitis has been very general, and when it is properly carried out has given fairly good results. I was a strong advocate of it, going so far in the cases of general peritonitis as to remove the small intestine and wash out the cavity very thoroughly with peroxide and salt solution, and was very much gratified at some recov-

eries that took place. I am now convinced, however, that irrigation, even when thoroughly practised, is not to be compared with simple drainage with the least possible disturbance of the viscera.

In regard to the Ochsner treatment of diffuse peritonitis, in my opinion the occasions to employ this method are two: in every case of appendicitis where it is impossible for any reason to immediately operate; and secondly, after the removal of the appendix and the establishment of drainage. The time has passed undoubtedly when saline laxatives are to be employed in the treatment of appendicitis, or any form of peritonitis. They only stir up a peristalsis which tends to spread the inflammation. In this particular there is no doubt that Ochsner is right and that the indiscriminate use of these laxatives, especially after perforation has taken place, has caused the death of many patients.

332 SOUTH FIFTEENTH STREET.

FUNCTIONAL HEART MURMURS.

Written especially for Medical Examiners

By RICHARD ELLIS, M. D.,

NEW YORK.

The human body is the most wonderful machine in the world. In this machine there are two central stations—the heart with its blood currents and the brain with its nerve currents. We never shall understand the brain central station because it is the silent mystery of the world shut up in a bone box. We can, however, know the circulatory system quite well, because it is continually speaking to us by its constant motion, its blood currents, its blood conditions, and its vessels.

In our heart work we should study the human heart carefully, but keep in mind, for clearness sake, an imaginary heart of great size with its endocardium and pericardium, its great vessels and embracing lungs.

It is not the purpose of this article to discuss valvular murmurs; it is sufficient to state that there are four valves, each presenting a possible systolic and diastolic murmur. It is not the purpose of this article to discuss the pericardium nor the myocardium; it is sufficient to state that pericardial murmurs are relatively so rare that they are often overlooked, and that the myocardial condition is the most important of all questions about the heart. It is the purpose of this article to try to add something to our limited knowledge of functional heart murmurs. These murmurs are called cardiorespiratory, organic, hæmic, anæmic, accidental or venous murmurs.

CARDIORESPIRATORY MURMURS.—These murmurs are caused by air compression and expansion. They are heard so often by the trained ear that they are ignored entirely while the ear seeks for a cardiac murmur. When one sees before him the moving lungs with their expanding and contracting air vesicles, the pleuræ, the mediastinal spaces, the pericardium, and the constantly expanding and contracting heart, one marvels that every chest is not full of cardiorespiratory murmurs. These murmurs are flitting, superficial, respiratory murmurs, heard usually about and over the cardiac area, but often scattered all over the left chest. They may be best

heard during inspiration, may decrease during expiration, and always disappear after a forced expiration. Were it possible to completely empty the lungs, cardiorespiratory murmurs would never be heard after expiration; as it is, a very faint cardiorespiratory murmur may often be heard after expiration, unless the expiration is forced. Ignorant people do not know how to completely exhale.

These murmurs may flit about the chest from the apex to the angle of the scapula, from the apex to the cardiac base, and then entirely disappear; they may cling to the apex, but at once disappear when you wish a second physician to hear them; they may resemble a systolic leak at the apex, and at once disappear while you are listening. They may increase during inspiration, and persist when the breath is held, at any stage, except that of full expiration. I have repeatedly heard them after a so called expiration, but never when the lung was emptied as far as possible.

The following cases have been verified by three physicians making the same diagnosis without any preliminary discussion:

CASE I.—A carpenter, age 34, looks strong and well and was never ill a day in his life. The action is regular, apex normal, vessels are good. Irregularly there is heard a faint systolic cardiorespiratory murmur over the right aortic area, transmitted across the sternum and down the left sternal line. There is no murmur on expiration and none after exercise. At times the clear systolic cardiorespiratory seems to extend into the beginning of the diastole. The applicant was recently declined for insurance.

CASE II.—A strong man, age 34; was always well, but rejected by two insurance examiners for heart disease. A careful examination shows an inconstant cardiorespiratory murmur flitting over the chest from the apex to the right aortic region. The action is regular, apex normal, heart sounds are perfect. After exercise and after lying down, there are heard normal heart sounds, except under varying respiratory condition. An inconstant cardiorespiratory murmur flies about the chest very near to the ear.

CASE III.—A robust man, who has been always well. The heart action is regular, apex normal. From the apex to the axilla there is clearly heard a superficial double murmur exactly like a cardiorespiratory murmur. There is a distinct pause between the murmurs which have the same intensity, pitch and quality. On deep expiration both murmurs disappear while the heart sounds are unusually clear. Four skilled diagnosticians agreed with the murmurs were superficial cardiorespiratory with normal heart underneath the respiratory storm.

THE CAUSE OF THE FUNCTIONAL MURMURS.—As a profession, we study and discuss medical subjects like children at play, who quickly tire of one kind of game and wish "to play something else." We run away from our unfinished study "to play with something else," and then begin our study all over again. A few advance persistently, the rest drift aimlessly far in the rear. There is some chaos everywhere, little persistent continuity of study anywhere.

It would pay every medical society in America to contribute liberally to the support of some central organization of selected salaried men who would properly direct medical investigation, hold us up to our proved level, and not allow us to flounder around in the same old quagmire for generations.

The cause of functional murmurs has been studied for generations; we have drained the vessels and studied murmurs, we have transfused the vessels and studied murmurs, we have changed the position of our subjects and studied murmurs. After reaching certain conclusions, we have come up out of the bog, but at the same moment an enthusiastic young hospital graduate "hears a hæmic murmur" and rushes down in the same old bog to study the subject *de novo*; he has not been taught to begin where others end. Shall we always flounder in the bog? Shall we never properly arrange and classify the medical knowledge of to-day, so that the ordinary practitioner, as well as the brilliant investigator, may work to the best advantage?

A glance through a dozen textbooks or journals will show the general aimlessness and lack of general continuity of our work at present. I repeat, shall we always study heart murmurs like children at play and allow our successors to do likewise?

We never think of studying the murmurs heard all over a fire engine under full steam; we know that water rushing through a pipe from a pumping engine is likely to produce all kinds of murmurs, depending on pressure, fluid and pipes; we know that, so we do not write an encyclopædia full of useless discussion on the cause of fire engine murmurs and hose murmurs. We have, however, written thousands of useless pages on the cause of organic and hæmic heart murmurs. As we construct a fire engine easily, so we could construct a huge heart engine with its blood pipes, and surround it with a thick lung blanket over a pericardial bag. We could start our heart engine and produce thousands of all kinds of heart and vessel and lung and pericardial murmurs depending on thousands of possible changes in lungs, pericardium, heart force, pipes and fluid. We could write thousands of pages about these endless murmurs, but they would be as valuable as a history of a country town in 136 volumes.

It should be enough to say that six kinds of endlessly peculiar murmurs may be heard, namely: Murmurs from the throbbing heart engine, from the vein pipes leading to the engine, from the artery pipes leading from the engine, from valvular constrictions in the mechanism, from the pericardial bag, and from the lung blanket. All this is very clear when we think of a big mechanical heart engine. It should be more clear when we study the living heart composed of sensitive nerves and throbbing muscles, with its living vessels, pliable pericardium and enveloping lungs.

We remember a fluid murmur is caused by molecular vibration and is best transmitted, as an aortic regurgitation, in the direction of its current or through its points of contact, as a mitral regurgitation. We know many causes may produce these blood murmurs from valvular constriction and vessel changes, to blood changes. We know the reason for heart muscle and pericardial murmurs and we can explain all cardiorespiratory murmurs by the physical laws of air expansion and compression: in other words, these functional murmurs are due to so many possible causes or combinations of causes that we shall never be able to pick out the exact causes producing a functional murmur heard in the living chest. We know that we usually do not find the

cause, even when the dead body is given to us for careful study.

The reason is as clear as it can be. We never can find all the possible reasons for murmurs in a vibrating fire engine by examining it under full steam or by tearing the engine to pieces. We know that valvular constrictions produce valvular murmurs and a thousand other conditions of construction produce a thousand kinds of "functional murmurs"—they are a necessary condition associated with engine motion. So, when we cut the human engine to pieces, we know valvular changes may explain organic murmurs, but we never can pick out exactly the many other possible reasons for a functional murmur heard over the living engine, because the murmurs are often a necessary normal condition associated with a living heart engine.

Among the many possible causes of these functional murmurs are blood changes; pulmonary artery changes in size, shape and position; changes in other blood vessels; heart force changes; myocardial changes, including changes in coronary arteries; nervous heart murmurs; heart murmurs from excessive use of tea, coffee, tobacco, alcohol; over-feeding, and over-exercise; murmurs after a serious illness like typhoid fever, when a functional murmur may be heard as well as a relative leak at the mitral valve from heart muscle weakness; chlorosis; murmur over chest from left auricular appendix vibrations; pressure on pulmonary artery from dilated left auricle; fibrillar tremor of the right ventricle; murmurs from relative tricuspid regurgitation with hypertrophy of left auricle; pressure of pulmonary artery against the chest walls; anæmic mitral leak; tricuspid regurgitation transmitted into the *comus arteriosus* which is displaced to the left through dilatation of the right ventricle; pressure of flabby heart upon the pulmonary artery; pressure of dilated left auricle upon the pulmonary artery; venous murmurs from the great introthoracic veins; cardiorespiratory murmur by impact of the apex against the lung; defective action of the papillary muscles, or introcardial bands, or faulty insertion of the valve muscles; vibrating columnæ carneæ or auricular muscular tremor, or aberrant chordæ tendinæ, or muscular "thrumming" resembling a murmur, or "nervousness" affecting the heart through the sympathetic; open foramen ovale and open ductus arteriosus; pulmonary valve changes; roughening of aortic valves; changes in size, shape and direction of ascending aorta, and so forth, *ad infinitum*.

Again, no two engines, even of the same make, have ever vibrated alike; likewise no two hearts have ever been exactly alike in every vibration.

An old engineer blindfolded can tell you almost by the vibrations whether his engine is running all right. He always used to take out the same engine, and so learned to know her peculiar vibrations when under full headway. Now he takes out "any old engine" and by experience quickly learns the peculiar vibrations of each.

A score of engineers could easily spend years in studying minutely engine murmurs and show that hundreds of slight changes in the thousand and one parts of an engine would alter the vibrations which combined together give each engine a personality of

its own. So in reference to the heart engine, the physician engineer knows that no two heart engines have ever been exactly alike; he knows a hundred and one minute changes in the construction and motion of this complex engine will alter the vibrations so that among the almost endless changes and combination of changes, no one change or group of changes can ever be selected as the special cause of special functional murmurs. Therefore, let us not be surprised at the murmurs we hear; let us be surprised that we do not hear many more. Let us master the maximum intensity and the transmission of all murmurs; let us carefully study the intensity, pitch, quality, location and time of all recognized organic murmurs, in order that we may know an accidental murmur more easily.

As we have stated, a functional murmur is usually heard over the pulmonic, but it may be heard over the mitral or aortic area, or it may be heard almost anywhere over the chest; it may be transmitted even to the angle of the scapula. It may be loud, high pitched systolic over the pulmonic, widely diffused, constant or inconstant, or it may be merely a faint, soft systolic over the pulmonic. It may vary in its intensity, pitch and quality, although it is usually a soft, gentle, blowing systolic which may continue even to the beginning of diastole. It may occur after exercise, during excitement, or immediately after the act of rising. It may be caused by a heart irritated by too much tobacco. It is often heard in thin chested, nervous women and may disappear when the pulse falls to normal and the patient feels at home. Ninety per cent. of all cardiac murmurs are functional, systolic, with no attending signs of valvular murmurs.

The following cases have all been verified by at least three physicians:

CASE IV.—An inconstant, clear, systolic flits about the apex, and resembles a mitral regurgitation; at times even after exercise the heart sounds are absolutely normal, and there are no concomitant signs of a valvular leak. Suddenly the murmur begins again, and a new examiner diagnosticates a mitral regurgitation until, even while listening, the heart sounds become normal. In this case there was heard, in addition, an inconstant, flitting, superficial cardiorespiratory over the heart.

CASE V.—Age 27; has been always well. A cardiac murmur is heard called "aortic regurgitation." The examination shows a normal apex, the action is regular, no diastolic murmur over the pulmonic. There is heard a loud, sibilant, systolic murmur somewhat diffused, and not changed by exercise. At times the murmur entirely disappears for some minutes, only to return very quickly.

CASE VI.—A man, age 30; 6 feet 2 inches tall; weight, 160 pounds. He looks thin and anæmic and the examining physician told him he had "a diastolic murmur," while his own physician assures him his heart is normal. His chest is flat, with depressed sternum. The heart has a normal apex, with regular action and no mitral or aortic murmur. Over the pulmonic there is heard even through a thick overcoat an inconstant, high pitched, systolic murmur, almost like a mitral regurgitation heard over the left auricle. At times even after exercise, the heart sounds are so clear and precise that no one would say the man had a mitral leak. Three careful examiners called the murmur an inconstant, hæmic, systolic, over the pulmonic.

CASE VII.—A nervous, sensitive man, age 40. The heart is irregular in force, with a sudden systolic jump every five to ten beats which distresses the patient very

much. The apex is normal and the muscular tone good. Over the pulmonic there is heard a constant, clear, systolic murmur lasting through the systole; 0.02 grain of nitroglycerin caused the irregularity and the murmur to disappear for some time. This same condition was noted six months ago. The murmur is increased by exercise or by nervousness.

Diagnosis.—Constant functional systolic over the pulmonic.

CASE VIII.—Strong, well man, who was never ill. The apex is normal and action regular; a tense ear hears distant, feeble, inconstant systolic rumblings about the apex. Two doctors made a diagnosis of a "mitral systolic," but two others, after a very careful examination, could hear only feeble inconstant muscular rumblings. After exercise and after lying down clear heart sounds only could be heard.

CASE IX.—Professor at law, a slender and delicate man, who has been always well. He is a busy man, leading a studious indoor life. The heart shows a normal apex, regular action, and good muscular tone; the mitral and aortic areas are normal. Over the pulmonic there is heard a loud, long sibilant systolic murmur, widely diffused, even over the right chest. It is quite difficult to tell where the ear does not hear it. An associate said "clear mitral leak," but after the applicant had rested and discussed his books and his works, the associate and I could hear no murmur, and believed the heart normal. After climbing up stairs the murmur returned again, only to disappear after resting.

CASE X.—A tall, thin man, having been always well. The heart shows a normal apex, regular action; there is no murmur. Suddenly a clear systolic springs up at the apex and is heard even at the angle of the scapular. Murmur is not increased by exercise, or by lying down, or by expiration. Suddenly the murmur ceases and the valves are heard to close with a clear snap. This interesting change is repeated again and again.

SPECIAL POINTS.—I. Always examine every heart in this sequence: Condition at apex; muscular tone; vessels and pulse, mitral area, aortic area, and pulmonic area.

2. Consider the aortic area to be the entire middle sternum, as well as the second right space and left sternal line.

3. A man's voice may be heard in every room of an apartment, but the important acoustic question is: In which room is the voice, and into which other room is the voice best carried; so the first thought after noting the time of a murmur is "where is the maximum intensity and the best transmission?" especially since many functional murmurs are widely diffused.

4. An aortic systolic is usually an accidental murmur and very rarely a true stenosis. Few ears have ever heard true uncomplicated aortic stenosis.

5. An aortic systolic may be due to an open foramen ovale or open ductus arteriosus, or to a pulmonic stenosis, or roughening of aortic valves, or abnormal vessels, or to a true stenosis.

6. When compensation fails, and the poor fellow suffers his first attack of severe dyspnoea, he brings with him to his doctor some or all of the attending signs of his valvular murmur.

7. The insurance examiner sees this same patient years earlier, when the heart presents a murmur with no concomitant signs of valvular disease. A trained ear may decide at once the true character of the murmur. An untrained ear may require several examinations to decide the maximum intensity, pitch, quality, time and muscular condition.

8. After reviewing scores of examinations we repeatedly find a carefully diagnosed mitral regurgitation which proves to be a functional murmur. Almost never do we find a "functional murmur" proving to be an organic murmur on subsequent examination.

9. Every one should be able to hear a hæmic murmur over the pulmonic, but no one on first examination can tell whether certain apex systolic murmurs are organic or hæmic. Such doubtful murmurs are almost always hæmic, but they may require several examinations for a correct diagnosis.

10. No one can always judge the true condition of an over acting heart, associated with a murmur; therefore, every examiner should study the heart under fair conditions. Almost every excited heart under the right conditions will show some kind of a murmur somewhere.

11. After watching scores of physicians at work examining the living body, the following facts have been observed: The majority train themselves to examine with and without the stethoscope. The majority prefer, when possible, the ear for the lungs and the stethoscope for the heart. Most cardiac murmurs are heard best through the stethoscope; a few feeble and diffused murmurs are best heard by the naked ear. A careful ear, aided by the stethoscope, may fail to hear a few scattered rales. The stethoscope almost never fails to hear a cardiac murmur heard by the naked ear.

MISTAKES OBSERVED.—I. A loud systolic over pulmonic called a mitral regurgitation at apex, because the apex region only was examined.

2. An aortic regurgitation called a systolic pulmonic through ignorance. Many cannot recognize systolic time from diastolic.

3. Seizing the spot where the murmur is first heard, and not hunting for the maximum intensity and best transmission.

4. A flitting systolic superficial cardiorespiratory called a mitral leak.

5. An inconstant systolic hæmic at apex called a mitral leak.

6. Long faint systolic over aortic area called "aortic stenosis."

7. Observing a superficial flitting cardiorespiratory, but missing a clear aortic diastolic underneath.

8. Missing the typical quick grinding systolic "thrup" of a mitral stenosis at the apex, because no clear presystolic murmur is heard.

9. Forgetting to hunt for the concomitant signs of an organic murmur.

10. Calling organic murmurs "hæmic" or "functional."

11. Heaving systole, tense vessels, apex two inches outside nipple line, increased aortic second, bad family history, faint systolic murmur called a "normal heart," although presenting five signs of arteriosclerosis.

12. Stopping all murmur vibrations by pressing too hard against the chest, especially in mitral stenoses.

THOUGHTS FOR EXAMINERS.—I. Every examiner should first know the normal heart from its deep rumbling bass—"thru-u-um-dumm"—to its quick tenor—"luk-duk."

2. One should then study typical valvular leaks

until one is able to recognize at once mitral and aortic lesions.

3. Having mastered the normal heart and typical mitral and aortic lesions, one is ready from his earnest study to agree that some murmurs are organic, some may be organic, but most murmurs are either cardiorespiratory or functional.

4. Every careful examiner should recognize at once a cardiorespiratory murmur; he may not always hear, nor always distinguish between the murmurs that are "organic" to one ear and "functional" to another, especially if the murmur is apex systolic, constant or inconstant, and varying in intensity, pitch and quality. Such murmurs may require several examinations for a decision which may be reversed later.

5. It is known that a large proportion of all murmurs are functional systolic over the pulmonic, with another large proportion of scattered functional and cardiorespiratory murmurs.

6. Diseases of the circulation (including kidney lesions) cause more deaths among the insured than tuberculosis; therefore, examine the heart and vessels and urine as carefully as you do the lungs.

7. Do not read too much about the heart until you have mastered the essentials learned in practice and in studying such a book as Cabot on *Physical Diagnosis*.

8. Do not even think of "murmurs," until you study the muscular tone, the vessels, and the apex beat.

9. The apex is so often near the nipple line that one should examine for hypertrophy of the right heart as well as the left.

10. Find the maximum intensity and transmission of all murmurs. Then describe briefly and exactly the condition found. Your true description is of more value than your diagnosis.

11. You are not necessarily to describe the kind of a murmur you may hear, especially since no one can decide whether certain murmurs about the apex are functional or organic.

12. The most important question about the heart is the apex beat and the muscular tone. If the heart muscle is well nourished through normal coronary arteries, and the apex and vessels are normal, that heart may beat a long time.

13. Do not write "functional murmur" on your paper; write such a description as this: "Muscular tone good; apex and vessels normal; action regular; no murmur over the mitral and aortic areas. Over the pulmonic area, there is heard a long soft systolic murmur which is constant even after exercise and after lying down."

14. Many forget to examine over the aortic area; along the left sternum line, and across the sternum to the second right space.

15. Study carefully every mitral stenosis murmur, and master at once that characteristic systolic muscular jumping "thrup" often with no presystolic murmur.

16. Do not strain your ear so that you can "almost hear a murmur," else you will soon report all hearts as diseased. As a matter of fact, Nature has given almost every "well man" a good heart.

17. Murmurs of the right heart may be ignored.

They are usually due to a relative tricuspid regurgitation due to a diseased left heart.

18. Murmurs of the left heart are easily classified: Diastolic aortic regurgitation and mitral stenosis; systolic aortic stenosis (rarely heard) and mitral regurgitation, with the ever present functional and cardiorespiratory murmurs.

628 WEST ONE HUNDRED AND FOURTEENTH ST.

MOTOR OCULAR PARALYSIS AS A COMPLICATION OF ACUTE ARTICULAR RHEUMATISM.

By LIONEL STREET, M. D.,

KYOTO, JAPAN.

As I have not noticed more than a passing reference to motor ocular paralysis as a complication of acute articular rheumatism, I feel that the following report of a case may be of some interest, the more particularly because it was a month before I was able to establish my diagnosis.

Mrs. E. M., American, married, thirty-three, consulted me February 27, 1905, for the above condition. Family history: Both parents and only sister died of phthisis. The father at 32, mother at 28, and the sister at 26. General previous history: Patient had had measles when 9 years of age, followed by otitis media purulenta; a severe fall when about 10 years old, and when 20 general debility. She was married when 17, and had an instrumental delivery at 18 years. No subsequent pregnancy. There was a bad cervical and perineal tear, which was only partly remedied by subsequent operations. She has had dysmenorrhœa for some years, also constipation and hæmorrhoids. During her residence in the Philippines, from 1901 to 1904, she contracted malarial and dengue fevers; the latter followed by peripheral neuritis. During the early months of her stay there a "tropical ulcer" developed on posterior aspect and lower third of her right leg, and which failed to respond to a course of treatment covering a period of eight months, but which quickly healed on coming to Japan. She also had suffered from gastrointestinal catarrh and nervous debility for some years past. Her eyesight has always been excellent. History of present disease: The patient dined out on February 26th, and on returning home complained of "a queer feeling in her right eye." Her appetite was good, digestion only fair, as constipation had become a habit; also headaches, vertical, supraorbital, and (since the eye trouble) intracranial, but not localized. Physical examination: Height, 5 feet 4 inches; weight, 130 pounds; her body is well developed and mucous membranes of normal color. The tongue is slightly coated. The chest is well developed; respiration is good; palpation and percussion failed to elicit anything abnormal. Pityriasis maculate et circinata covered the chest, back, and arms. She states that this trouble has recurred each summer, as far back as she can remember. There is also a lipomatous growth over lower border of the ribs of the left side, with a history of three years standing. Both tympanic membranes are perforated. She says that one was perforated accidentally while cleaning her ears with a hair pin as a child, and that the other as a result of the inflammation before noted. Retroversion of uterus between first and second degree. On occasion of first visit, the pupil of the right eye was widely dilated, the accommodation lost, and no reaction to light; two days later ptosis and external strabismus developed, but no other symptoms for a month, when acute articular rheumatism of the right shoulder developed with characteristic severity. The acute symp-

toms lasted a week, during which time the patient's sufferings were intense, relief only being obtained after repeated hypodermic injections of morphine.

Treatment.—Potassium iodide, 1 gramme three times daily in cinnamon water, was continued one month, the result being negative. I then prescribed sodium salicylate with tincture of bitter orange peel and continued this for two weeks, together with symptomatic treatment locally. At this time Dr. Baelz, of Tokyo, was in town, and I called him into consultation, with the result that we prescribed aspirin in 0.65 gramme doses three times a day in conjunction with tincture of nux vomica. The dose of aspirin was gradually increased to 1 gramme three times a day. On June first this treatment was discontinued and I began daily treatment with the Faradic current, which treatments were continued during May, June and July and up to August tenth.

On June ninth the patient was able to open her right eye slightly. I substituted quinine sulphate morning and night for the tincture of nux vomica. On June twenty-third stopped the quinine and began a course of treatment with kissingen and vichy salts. The eyelid was open a little more and the pupil smaller, but as yet no light reaction. On July first I prescribed strychnine sulphate, 0.001 gramme to be taken three times a day; the salts and electricity were continued. There was no perceptible improvement during July.

August tenth, a marked improvement. August twenty-fourth, eye quite open, and pupil nearly normal in size and a slight reaction to light. The headaches from which patient had almost continuously suffered have stopped some days ago. October ninth, she suffers from leucorrhœa for the past three or four days, otherwise fairly well, favors affected eye, unconsciously closing it from time to time. I discontinued the strychnine sulphate and prescribed a pill of iron and strychnine. On October eighteenth her condition was much the same, the constipation is obstinate, and I prescribed cascara sagrada. Since the eye trouble began there is a tendency to obesity, the ætiology of which is obvious. Since then there is no change. The patient continues to take the tonic pill and the salts.

Analysis of a Sample of Air Extinguishing a Flame.

—Blount states that the air in one of the rooms of a cold store was found to extinguish the flame of a candle, although the workmen could breathe in it seemingly without injury, at least for a time. On investigation a current of air from a shaft leading from a disused well was detected entering the chamber. Several analyses of the intruding air revealed an almost unique composition; that is to say, there was present only some 8 to 9 per cent. of oxygen, but no corresponding amount of carbon dioxide, which only amounted to about 1 per 1,000. The air of the room itself contained about 17 per cent. of oxygen. In seeking for the cause of this current of abnormal air it was discovered to arise from some tunnelling operations proceeding in the vicinity under the compressed air system. To account for the depletion of oxygen, the author assumes that the air driven through the mud of which the soil consisted came in contact with particles of iron pyrites which took up oxygen without, of course, yielding to the residual gaseous mixture any volatile substance. The presence of pyrites was proved, as was the power of the earth to remove oxygen from air, samples being sealed up in glass tubes.—*British and Colonial Druggist.*

Our Readers' Discussions.

A SERIES OF PRIZE ESSAYS.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

XLVIII.—How do you treat pruritus ani? (Closed March 15, 1906.)

XLIX.—How do you treat lumbago? (Answers due not later than April 16, 1906.)

L.—What is the best form of shack or tent for tuberculous persons? (Answers due not later than May 15, 1906.)

Whoever answers one of these questions in the manner most satisfactory to the editors and their advisors will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable, no one answer to contain more than six hundred words.

All persons will be entitled to compete under the regulations laid down by the postal authorities. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL.

The prize of \$25 for the best essay submitted in answer to question XLVII has been awarded to Dr. William G. Young, of Washington, whose article appears below.

PRIZE QUESTION NO. XLVII.

THE TREATMENT OF WHOOPING COUGH.

By WILLIAM G. YOUNG, M. D.,

WASHINGTON, D. C.

There is no specific for whooping cough. Almost every drug in the pharmacopœia has been recommended for it at one time or another, and each practitioner has his favorite remedies. Better results will be obtained, however, if we let medicines play a minor rôle in its treatment, and pay strict attention to the hygiene and general management of the disease. In fact, many cases require nothing more.

First, we should appreciate the fact, and endeavor to impress it upon the laity, that whooping cough is not always the insignificant and harmless disease that it is generally supposed to be. It may be attended with the gravest complications, and some of its sequelæ are of a serious nature. According to Goodhart, it is the most fatal of all diseases in infants under one year of age. It is especially fatal in delicate infants.

It is, then, important to quarantine our patient immediately from those liable to contract the disease. If the child is attending school he should be stopped. If there are other children at home who have not had the disease, they should be sent away. When the patient takes his daily outing, he should, of course, be kept away from other children who might contract the disease. The quarantine should be continued for at least six weeks, or until the paroxysms have ceased.

As the quarantining of patients with pertussis is often neglected, by both physicians and parents, I would lay especial stress upon its importance. It should certainly not be neglected where there are delicate infants, or those predisposed to tuberculosis.

In institutions the room occupied by the patient should be fumigated as after other contagious diseases; and when the patient is treated at home, it is well to fumigate the room if it is going to be occupied by an infant.

The patient should be out of doors as much as possible, except in bad weather. He should not be exposed to draughts or sudden changes of temperature. On days when the weather is too disagreeable for the patient to be out of doors, he can take his airing in his room by being dressed for the street and having the windows of his room open.

The room in which he sleeps should be well ventilated. It is better to have him occupy some other part of the house during the day, so that the room in which he sleeps can be thoroughly aired every day. If his room receives the sun during the day, so much the better.

The patient should be warmly clad, but not too heavily. Whether in winter or summer, he should wear flannels.

Careful attention should be paid to the food. It should be light, nourishing and easily digestible. It is better to eat less at each feeding, and give the feedings at shorter intervals than usual. Some cases are very difficult to feed, on account of the tendency to vomiting. Where the vomiting is very troublesome, children over two years of age should be given a liquid diet, chiefly of milk; in infants the milk should be diluted, and in some cases partially peptonized. In the most severe cases, it may be necessary to resort to rectal feeding.

The bowels should be attended to. If there is constipation, a mild purge may be given, as calomel or castor oil.

A change of climate, residence at the sea shore, or a sea voyage, is beneficial in some cases, when it can be afforded.

Inhalation of the vapors of certain drugs, such as eucalyptus, creosote, carbolic acid, or compound tincture of benzoin, is sometimes beneficial. The nose and throat should be kept clean by sprays of salt solution, boric acid solution, solution of sodium bicarbonate, or a solution of hydrogen peroxide in glycerin and water.

Various antispasmodics are used, the best of which are asafoetida, antipyrine, sodium bromide, and belladonna. If we try one of these and do not succeed in diminishing the number of paroxysms, we should try another. The mixture of asafoetida may be given in twenty drop doses every two hours to a child of two years. Antipyrine may be given in two grain doses every four to six hours to a child of the same age. It is better to combine the latter with sodium bromide. Belladonna should be given in gradually ascending doses. We may begin with one drop of the tincture every four hours in a child of two, and gradually increase the dose until the physiological effects are noted.

In the most severe cases stimulants may be required, when we may use whiskey, brandy, or strychnine in appropriate doses. Tonics are useful in many cases, particularly during convalescence. Tincture of nux vomica is excellent if the appetite is poor. In poorly nourished children, especially those with a strumous tendency, cod liver oil should be given. If the patient is anæmic, iron should be given. An excellent preparation is the iron iodid.

Complications should be treated as they arise, and according to general rules. We cannot abort the disease. In some cases we may possibly lessen the number of paroxysms. Our main efforts should be to manage the case so that the dangerous complications and sequelæ common to the disease shall be prevented.

903 M STREET.

Dr. Charles Floyd Burrows, of Boulder, Col., writes:

Whooping cough is an acute, contagious infection, characterized by symptoms arising from the mucous membrane of the respiratory tract, especially that of the larynx, trachea, and bronchi, associated with paroxysmal convulsive attacks of coughing. It most always affects young children and infants, though mature and senile persons are occasionally attacked. One attack usually confers immunity. The disease pursues a self-limited course, and there is at present no known procedure, drug or antitoxine which will cut the period short to any extent. Medicinal and hygienic treatment may do a great deal, however, to lessen the seriousness of the malady, ward off its complications, and allay the severity of the whooping cough paroxysms.

Pertussis in itself is not dangerous excepting perhaps in young infants, who are naturally weak, and are inclined to rickets, tuberculosis, or gastrointestinal disorders. The complications which it paves the way for, such as simple or tuberculous bronchopneumonia, convulsions, and hæmorrhages, or the tuberculous enlargement of lymphatic glands which often follow in its trail, make it, however, a dangerous and subtle disease, and one which needs careful attention and treatment to prevent a startling mortality.

When an attack is suspected or diagnosed, the patient must be at once quarantined, and not allowed to mingle with other children, nor attend school. The exposure and carelessness which the neglect of this rule occasions in many homes and communities are positively shocking. Thus weak and sickly children often unnecessarily contract the disease without power to resist its severity.

Fresh air heads the list of all palliative and therapeutical measures. Children should be kept out of doors continuously, properly clad, and protected from winds, storms, and the catching of cold, unless they have a temperature above 100° F., or complications of a serious nature threaten. Whenever this is not possible and during the nights, then the room where a child is kept must be thoroughly and constantly ventilated. Fresh air is easily obtainable night or day, and the more of it that is carried down the respiratory apparatus the better the prognosis, and the less danger of frequent paroxysms and complications. It is also advisable, if possible, to change the patient's room once or twice a week, and disinfect to prevent reinfection. All domestic conditions which tend to excite crying, nervousness, or fright in a child, as noise, teasing, dust in the air, the coughing of other occupants, must be prevented, and food should never be given cold. Thus, by these means several paroxysms daily may be prevented. Local treatment avails but little, though a one per cent. solution of resorcin or carbolic acid may be sprayed over the nasopharynx and larynx two or three times daily. Inhalations are more valuable,

particularly of creosote, which may be used by vaporizing over an alcohol lamp, or by steaming from a croup kettle. These measures allay irritation in the throat, facilitate removal of mucus, and act antiseptically.

Medicinally antipyrine heads the list of drugs which may be used to advantage internally, one half to one grain every two to four hours in children under two years of age is very successful. In the very nervous or in those showing a tendency to convulsions, sodium bromide in two grain doses may be combined with this. In children over four years I use an aqueous solution of quinine bisulphate, giving from ten to twenty grains daily. This may disarrange the stomach, however, and have to be discontinued. Atropine carefully watched has in these cases been very successful. Commencing with doses of 0.001 grain three times a day, and gradually increasing according to age and conditions until faint constitutional symptoms are produced, one may obtain very agreeable results. However, belladonna must be handled very cautiously, and in the majority of cases will prove inferior to either antipyrine or quinine properly adjusted as to dosage.

In addition to the foregoing medicinal measures, nerve sedatives are always useful, in a restricted and tentative way, in allaying paroxysms, and in producing sleep, but should be exhibited only to meet emergencies, and not used constantly. Chloral and sulphonethlymethane may thus occasionally be valuable to produce sleep, and ward off convulsions, when paroxysms are severe, and prevail particularly at night. When whooping cough tends to linger beyond a reasonable period and becomes troublesome to eradicate, a change of environment to the sea shore or to a warm climate is very advantageous.

When the disease has run its course, the syrup of iron iodid and cod liver oil should be administered during convalescence and until all signs of anæmia, cough, or delicacy have entirely disappeared.

Dr. W. T. Jones, of Natchez, Miss., remarks:

The treatment of whooping cough must be considered from two general standpoints, viz.: (1) To prevent the spread of the disease to others; and (2) the treatment of the disease itself, or the symptoms arising therefrom.

The conduct of the case so as to prevent infecting other children is very much more important than it is usually supposed to be. The mortality statistics show whooping cough to rank third in fatality of the diseases of children. The younger the child the more liable to serious complications; therefore, it is well worth being guarded against, especially till after the fatal age limit is past.

As soon as the case is diagnosed the patient should be isolated. The sick room must be well ventilated, and selected with a regard to having plenty of sunshine. The less furniture the better, and no rugs or curtains should be permitted in the room. All sputum and mucus must be collected and disinfected at once before being removed from the room. The temperature of the sick chamber should be kept at about 70°, and there ought to be a constant supply of fresh air entering the room at all times. A well aired room with sunshine answers equally as well as allowing the child out of doors, where it is almost

impossible to prevent the path taken from becoming contaminated. There must be as few nurses or other attendants in the sick room as possible, and these instructed to avoid contact with persons outside till they have bathed and changed their sick room clothing.

Even the youngest children can be trained to lie down when the paroxysm is felt coming on and will, if properly taught, expectorate the mucus plug into a small square of gauze which must be immediately burned.

The child must be made to lie for several hours daily in the sunshine. A warm bath given every night, followed by a cold sponge with friction, and a properly regulated diet is all that many patients require.

If the catarrhal stage is very pronounced with high fever and rapid pulse, give a hot mustard foot bath and apply cold to the head. If the child is very restless a prescription of spirits of nitrous ether and sodium bromide should be given.

Always see that the bowels are thoroughly open. The most satisfactory drug for this is small doses of magnesium sulphate in hourly intervals. Small doses of antipyrine will control the paroxysms and should be started right away. If there is an excessive amount of mucus a prescription containing atropine or belladonna should be given. In cases where the mucus is very tenacious ammonium carbonate and ammonium chloride will be of service in aiding the expectoration of the plugs. Small quantities of good whiskey are very beneficial in most cases and especially is it indicated in those cases where the child becomes weak from not being able to maintain any nourishment on the stomach. Besides, whiskey seems to have some specific action in controlling the paroxysms of coughing.

When the gastric symptoms are pronounced the diet should be restricted entirely to liquids which should consist of easily digested or predigested foods. The child should be fed small quantities at frequent intervals rather than larger amounts at longer periods.

If the heart is being over worked by the frequency of the paroxysms the patient must be kept on its back in bed. It is rare that any form of heart stimulant is necessary.

Sometimes when the case has not been treated from the start the child will have such severe paroxysms that it is often found best to control them with a few whiffs of chloroform or opium given guardedly, but the aim of the physician should be to avoid the use of such remedies.

Always be on the lookout for the first manifestation of any complications which are so prone to follow this disease and for which treatment should be rendered promptly.

Dr. Frederick Johnson, of North Freedom, Wis., states:

In the treatment of whooping cough, we have to deal with an acute infectious disease of the upper respiratory passages, accompanied with paroxysms of a spasmodic cough, of reflex origin. So prophylaxis must be our first thought. Children should be kept out of school and not allowed to associate with those who do not show symptoms. Young children, and those predisposed to tuberculosis, should be

carefully protected. Sputum and excreta should be disinfected. Quarantine should last for about six weeks.

As in most infectious diseases of which there is no known serum treatment, we must give more attention to the management than to the treatment as usually understood. Our aim should be to keep up the resisting power and treat the symptoms as they arise. In pertussis, as in any disease of the respiratory passages, the first indication is an abundance of fresh air, sunshine, and proper hygienic living. Thus in summer time most cases will need hardly any treatment, but in the winter when the fetich of catching cold rules, then we get a chance to show our skill. I have seen a case where the paroxysms were reduced from twenty to three a day, in three days, just by turning the boy loose. In very young and delicate children, we must show good common sense, or we may have a case of bronchitis. At times in severe weather, we must be satisfied with two room arrangements. That is, leave the children in one room for not more than six hours, then change to another room while that is being aired, and so change continually. Great care is needed even in older children in damp and changeable weather, but they should have an abundance of fresh air anyway. Among the wealthier classes it is advisable to change to a mild climate, preferably the sea shore. A change of room, bedding, and clothing at least twice a week is essential, and frequent disinfection with a formaldehyde lamp is good practice.

The child should be dressed warmly, and as long as fever is present, kept in bed. Baths should be given with caution, and great care manifested to avoid chilling afterwards. Nutrition must be maintained, a nourishing diet, simple and digestible. If vomiting occurs food should be given often but in small quantities, and in children two years old confined to milk diet. The bowels should be well looked after, as chronic indigestion leads to more frequent paroxysms.

Some report great success by mechanical means. Dr. F. W. Kilmer reports wonderful success with an elastic abdominal belt in controlling both the vomiting and paroxysms. Dr. Sobel controls the paroxysms by pulling the lower jaw down and forward. They both deserve a trial, but are not applicable to all cases.

Local treatment, such as nasal irrigation, is of great benefit. Irrigate the nasal cavities with Seiler's solution followed by an application of adrenalin 1 to 5,000 to nasal cavities, pharynx, and larynx is of great value; but cocaine should never be tried. Inhalations of creosote give great relief. Insufflations of quinine and benzoic acid are highly recommended, when mixed with some inert powder as sodium bicarbonate. When the paroxysms are very frequent chloroform should be used to stop convulsions and asphyxia.

In internal medication anything that has been given last has become a specific, and you can include nearly all the drugs in the pharmacopœia; but there are a few drugs of some rational value. The first in importance is belladonna; not alone does it control the paroxysms, but it seems to lengthen the interval, and children bear large doses well. Then if the rest is very broken, small doses of chloral hydrate and potassium bromide are given before retir-

ing, and that will be enough to control most cases. Antimony is comparatively a safe drug, but in my hands it has not given very good results.

It does not seem that we are able to shorten pertussis; we can only make the attacks milder by good management and a little, but careful, drugging. But as in all infectious diseases where we have no antitoxine, no drugs fit all cases and the individual must be managed as well as the disease. If there are not more than eight or ten paroxysms during the day no medication is indicated.

(To be concluded.)

Therapeutical Notes.

The Antidotal Action of Mercury Against the Syphilitic Virus.—Metchnikoff and Roux (*Annales de l'institut Pasteur*), having inoculated monkeys with pus from an infecting sore three quarters of an hour afterwards applied a mercurial ointment, consisting of equal parts of mercury and of benzoinated lard, with friction for ten minutes. There was some local reaction and a crust formed, which dropped off in a few days. There was no sign of syphilis following the inoculation, although another animal inoculated at the same time, which received no treatment, developed the characteristic symptoms in due time. In order to be sure that there had been no infection of the system in the former animal, a second inoculation was practiced forty-nine days later, and thirty days later a typical chancre developed at the point of inoculation. It was subsequently ascertained that a calomel ointment, consisting of calomel ten parts and lanoline twenty parts, was also protective when applied with friction one hour after the infection of the animal. The calomel did not cause as much local reaction as the mercurial ointment. In one experiment, three monkeys (macaques) were inoculated on both eyebrows with virus taken from indurated chancres on the penis of two men affected with syphilis. One animal was reserved as control, while the two others were subjected one hour after inoculation to local treatment with the calomel ointment. The control animal developed typical chancres on the eyebrows on the twenty-eighth day, while the two others remained, during the sixty-eight days of the experiment, free from all symptoms of syphilis. Thus, one may conclude that if one hour after being inoculated with syphilis a monkey is subjected to friction with mercurial ointment, it will not be infected. Possibly in a similar way men who have been subjected to contamination may also escape infection by rubbing a like ointment upon the part exposed. The attention of physicians is invited to this fact, so that its clinical value may be determined.

The Mercurial Treatment of Syphilis Unsuccessful in the Prevention of General Paralysis.—After referring to several cases in which syphilitic infection was treated systematically and for several years by mercury, and in which general paralysis subsequently set in and terminated fatally, M. Fournier, at the Paris Academy of Medicine, announced the following as his formal

conclusion: "We can never be certain that, by using mercury and even a great deal of mercury, we can prevent the development of general paralysis." The inference that we may sometimes succeed in this object is supported by a former statement of Fournier: "The unique safeguard of a syphilitic subject against general paralysis resides in a mercurial treatment systematically pursued, and followed for a very long period." H. Saingery (*Journal de médecine interne*, March 1, 1906) criticises the latter statement, which as he shows can never be demonstrated. When an individual has taken the remedy for a long time and has not been attacked by general paralysis, it is not proper to infer that he owes his safety to the mercury, because it is impossible to prove that, if he had not taken the mercury he would have become a victim of general paralysis. It is now established by good authorities that for an individual to become a general paralytic (whether syphilitic or not) a special temperament is necessary. Saingery declares that it is no less well established that the intensive mercurial treatment is useless or injurious to the general paralytic when the disease has declared itself, and asks: Why then would it not be useless or injurious before it appears? Should we not, on the other hand, fear that it might favor such a natural predisposition? Since it cannot be demonstrated that a syphilitic, who has been taking mercury and who escapes general paralysis, owes his preservation to the mercury he has taken; and since it has been positively established that even a large amount of mercury will not always protect from general paralysis, it follows that the routine employment of mercury, as a preventative of general paralysis in a syphilitic subject, is not logically required. The practice is not a rigorous deduction from the facts, but is based upon hypotheses and sentiment.

The Physiological Effects of the Administration of Phosphoric Acid.—M. Frenkel (*Le Progrès médical*, March 3, 1906) criticises the current opinion that a deficiency of acid is a common cause of sickness, and opposes the routine administration of phosphoric acid as a sort of panacea. By a careful biochemical investigation, he found that one of the effects of this agent was to considerably augment the proportion of ammonia in the urine. Without giving the details of his experiments, the conclusions are as follows: (1) Contrary to the affirmations of the partisans of phosphoric acid, the latter is not capable of assimilation by the economy, and is excreted in its totality. (2) Phosphoric acid increases the acidity of the urine, as well as the production of ammonia; the latter at the expense of the urea. The ammonia cannot be taken to measure the acidity, because the urine may be at the same time hyperacid and hyperammoniacal, under the form of acid salts of ammonia. (3) To continue to administer phosphoric acid in increasing doses in order to reduce the quantity of ammonia in the urine is illogical; because the greater the quantity of phosphoric acid taken into the system, the greater the proportion of ammonia will be in the urine on account of the physiological mechanism

of defense, which protects the organism from losing its fixed alkalis. (4) Phosphoric acid does not increase diuresis. (5) Phosphoric acid reduces the proportion of urea, not only as a result of the subtraction of a part of the ammoniacal compounds through the synthetic action of the liver, but also absolutely by lowering the rate of oxidation. While in normal urine the ratio of urea to the ammonia is forty-nine to one; after administration of phosphoric acid, the proportion is only twenty-one to one. Frenkel contends that the determination of the proportion of ammonia in the urine is sometimes of great importance and that generally speaking this element of the urine is too much neglected. In the determination of urea by the hypobromite process, the fact is usually overlooked that this reagent also decomposes ammonia. The error may be serious. For instance, diabetics are always strongly hyperacid; but, as he had found recently, they may eliminate as much as ten grammes of ammonia daily. It would lead to a wrong conclusion if the latter should be reckoned as urea. Excess of ammonia in the urine depends upon two factors which should be clearly distinguished from each other: First, there is an increased acidity of the humors, either artificial (as after the administration of phosphoric acid), or constitutional (as a result of the lowering of the nutrition). Secondly, insufficiency of hepatic activity is an indirect cause of the accumulation in the blood, of ammonia salts, which make their appearance in large quantity in the urine. The mechanism is as follows: The circulating blood carries to the liver the productions of proteid dissimilation; this organ, if functionally or anatomically abnormal, is not capable of accomplishing the synthesis of urea, or only to a limited extent, and as a result there occurs the phenomenon of hyperammoniamia. For this condition, alkaline should be administered to overcome the hyperacidemia. If under these conditions the excess of ammonia persists, it may be concluded that it is due to hepatic insufficiency. The value of this new pathognomonic sign will be made the subject of later clinical study.

Bacterial Therapeutics of Enteritis; a Novel Treatment of Intestinal Disorders.—Henry Tisier (*La Tribune médicale*, February 24, 1906) advocates treatment of bowel disorders by the novel method of transformation of the bacterial flora of the intestine from pathogenic forms to the normal flora. The treatment has its foundation in the fact that in culture media containing more than one per cent. of sugar, the addition of the ferment of the albuminoids and the acid ferment of hydrocarbons in combination is capable of arresting the action and the development of another simple ferment (especially of the albuminoids), and that under the same conditions a strong mixed ferment arrests the action and the development of a feeble mixed ferment. These preventive actions are attributable solely to the quantity of acids which are produced in the course of the attack upon the hydrocarbons. Therefore, we may arrest any putrid process by adding to the medium a little sugar and the mixed

bacterial ferments, when the latter are not already present. In producing these acids the latter bacterial forms will check simple fermentation, and their action will cease spontaneously when they have produced the acid. There will be no chemical modification or microbial development, as long as nothing intervenes to destroy or neutralize this protective acidity. Applying this to the intestine, the author sought to replace an injurious bacterial vegetation by one indifferent to an organism, such as that of an infant at the breast in a normal condition. In order to arrive at this result, it is necessary to modify the chemical constitution of the intestinal media so as to render it favorable to the development of the preventive species. The waste material of digestion should contain only hydrocarbons, and only the smallest quantity of proteid substances. This can be obtained only from a regimen consisting of sugar, starches, and fats principally; and in which the albuminoids are either suppressed or considerably reduced. Finally, in order that the flora may be composed only of mixed ferments, the most simple and the most rapid method is to introduce pure cultures of these species. It is necessary, therefore, to make a choice, among these, of bacteria which are non-pathogenic. Based upon two years' experience, the following method of treatment is outlined: A strict vegetarian diet is prescribed, especially excluding milk, eggs, and all kinds of meat and fish. In order to hasten the appearance of a preventive intestinal flora, one or two wine glasses are given of a pure culture of *bacillus acidi paralactici*, or preferably of a symbiosis of this with the *bacillus bifidus*. These cultures are made in peptonized water (salt, 5 parts; peptone, 10 parts; lactose, 20 parts; in 1,000 parts of water), and are very easily prepared by anyone familiar with bacteriological studies. They should, preferably, be given fresh. As soon as these microbes begin to grow, the medium becomes imputrescible. No species, putrefying or pathogenic, is able to become acclimated in it. Certain moulds may develop, however, and give it a bad taste and slowly destroy the protective acid, but this would only occur at the end of several months. During the treatment it is necessary to stop all antiseptics, laxatives, irrigations, suppositories, etc. In the first few days of treatment of enteritis, there may be no evacuation of the bowels, and the abdomen may be tympanitic, and there may be some colics or gastric disorder due to change of regimen, but at the end of four or five days, on the average, the constipation ceases, the abdominal pain and swelling diminish, and the tongue cleans off. The alvine discharges lose their putrid odor, they are no longer attended by false membranes, and become soft, yellow, and are slightly acid. Bacteriological examinations show gradual re-appearance of the microbes constituting the normal flora. In cases with persistent diarrhoea (not tuberculous), the improvement is less rapid, but it is rare that marked amelioration is not observed within a week. In order that the results may be permanent, it is advised that the treatment shall be continued for several weeks after apparent recovery.

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NEW YORK, SATURDAY, APRIL 7, 1906.

THE FORT STANTON SANATORIUM FOR
CONSUMPTIVE SEAMEN.

Evidence of the continued good work of this government institution is to be found in the report of the officer in command, Surgeon P. M. Carrington, contained in the *Annual Report of the Surgeon General of the Public Health and Marine Hospital Service* for the fiscal year ending June 30, 1905, recently published.

There were 385 patients under treatment during the year, including 192 remaining from the year before. Their ages were as follows: Under twenty-five years, 79; between twenty-five and thirty-four years, 120; between thirty-five and forty-four, 112; between forty-five and fifty-four, 53; over fifty-four, 21. In 82 of the whole number there was a history of tuberculous disease in a parent, and in 303 there was none. Of the 193 admitted during the year, 20 were in the first stage (without discoverable consolidation or excavation), 61 in the second (with considerable involvement and consolidation, but without excavation), and 111 in the third (with excavation). One was found not to be tuberculous. On their admission their conditions were noted as "good" (81), "bad" (93), and "very bad" (19), the first meaning "well nourished and without grave complications," the second "rather poorly nourished or with complications not necessarily fatal," and the third "much emaciated or with grave complications." The sputum of 21 contained tubercle bacilli, and that of 172 did not. Hæmorrhage had occurred in 50 cases before admission, but did not recur afterward; in 3 it came on only

after admission; in 9 there had been hæmorrhage before admission and it recurred afterward; and in 131 there was no hæmorrhage at any time.

There were 69 deaths, and 16 patients were discharged in a state of apparent cure, 5 with the disease arrested, 72 improved, and 25 unimproved. Of the grave complications, there were 33 cases of valvular disease of the heart, 9 of hydrothorax, 10 of Bright's disease, 20 of endarteritis deformans, 1 of aneurysm, 1 of carcinoma of the larynx, 1 of diabetes mellitus, 2 of sarcoma, 37 of lardaceous degeneration of the spleen, liver, kidneys, or intestines, 6 of peritonitis, 50 of pleurisy, 5 of intestinal perforation, 3 of fatty degeneration of the liver, and 4 of pericarditis. Numerous complications of lesser importance were noted.

Nothing new is recorded in the way of treatment. Tent life plays a large part in the methods followed at the sanatorium, ventilation being managed in the way advocated by Munson, of the army. "Patients living in tents so constructed," says Dr. Carrington, "are practically living out of doors during the entire twenty-four hours." He renews his recommendation of the establishment of an industrial shop in which convalescents may find employment.

BORIC ACID AND THE VERMIFORM APPENDIX.

We think it is generally admitted that appendicular inflammation is on the increase. Certainly the diagnosis of the condition is. The increase cannot be accounted for by any developmental or anatomical change in the organ, and there has been no material change in the staple articles of our diet. But it is worthy of note that during the last few years, *pari passu* with the actual increase of the affection, we have introduced new methods of preserving our food, methods affecting all classes of society quite as indiscriminately as the disease itself does. Statistics are said to prove that appendicular inflammation is more prevalent during summer and in hot climates. Such would be either the time or place when and where an extra dose of some preservative drug would be mixed with food to arrest decomposition. That brings forward the question, What is the most common preservative employed? The answer undoubtedly is, boric acid, for salicylic acid and formic aldehyde are much less in vogue. Boric acid is reputed to be the antiseptic constituent of a common food preservative. Moreover, the drug is more or less freely used to preserve milk, cream, butter, meat, fish, and even soups. In fact, in warm weather it

would be difficult for any individual to escape ingestion of the drug.

Let us now consider what may be the effects of boric acid on the alimentary tract when given in small medicinal doses for, sometimes, a short continuous period. It has been recorded that fourteen grains daily will quickly produce pain in the epigastrium and gas in the stomach and intestines, together with colic and diarrhœa, or, in other words, act as an irritant of the gastro-intestinal tract. Other consequences which have been noted from its use are albuminuria and an erythematous or vesicular eruption, together with the appearance of vesicles in the mouth and on the fauces. Possibly this vesiculation may extend to other parts of the digestive tract. There is no getting away from the fact that boric acid possesses the power of irritating the alimentary canal. This has led us to wonder whether boric acid can directly or indirectly have any part in the production of appendicular inflammation. The various forms of the disease—the simple, or catarrhal, stage with plastic peritonitis, the ulcerative condition with local abscess, or the gangrenous and perforated appendix, leading to diffuse septic peritonitis—are but degrees of an affection which lowers the vitality of the tissues and renders them more or less vulnerable to the onslaught of the *Bacillus coli communis*. Under normal intestinal conditions this organism does not seem to be harmful, but, given a suitable change in its surroundings, such as an inflamed mucous membrane, or possibly under stimulation by some change in the intestinal secretions due to antiseptics, it takes on an aggressive, penetrative action.

We believe we are correct in saying that the addition of antiseptics to sewage has in a measure been condemned because the ultimate sterilization by Nature's own agents, the contained germs, is thereby arrested. Perhaps a similar upsetting of normal conditions may be caused in the human cesspool by altering the conditions under which the *Bacillus coli communis* was intended to work. We know but little of the physiological functions of the appendix, although its anatomy is minutely worked out. Foreign bodies are not so frequently reported as being found nowadays in the appendix. The fæcal concretion has taken first place. Is there any reason for this mass forming? The valve of Gerlach is presumably intended to guard the entrance of the appendix, and one would naturally deduce that its *raison d'être* was to prevent gravitation of fæcal material or foreign bodies from above. But if the cæcum becomes distended by gas, such as

boric acid would produce, the valve would theoretically become incompetent and be drawn open. With the law of gravity coming into force the superjacent fæces would be more likely to invade it. Now, if peristalsis proves equal to their subsequent ejection, all may be well. But if not, there remains in the appendix material for developing into the fæcal concretion.

Should the condition be simply one of catarrh, one or another result may happen—either the mucus is extruded or the cavity of the appendix becomes distended by it. Now, boric acid does set up an inflammatory condition of the intestines, and it is quite likely that it may cause the condition in the cæcum and appendix. One point that has appealed to us as a very weak one in the suggestion is that young children, who take a large proportion of their diet in the shape of milk food, are comparatively free from appendicitis. One would not expect this, since boric acid is so frequently added to milk, and consequently they should be more exposed to its action. But perhaps their apparent immunity may be due to intuition, in that a child, when its stomach gets out of order, immediately refuses its food, and does by instinct what an older person has to be told to do, namely, give the bowel rest by starvation, or possibly to the saving effects of that sovereign remedy a timely dose of castor oil.

AGGLUTINATION AND THROMBOSIS.

That great lack of uniformity of opinion exists with reference to the answer to this question is *prima facie* evidence that the essential processes involved are not yet known. The hypothesis that coagulation of the plasma causes thrombosis is very old and has its adherents at the present time. Other students hold that agglutination precedes coagulation, and that two links in the chain are causal. Gutschy and Klemensiewicz have championed the idea that the primary formation of a fibrinous membrane at the point of injury is essential. These hypotheses have rested on purely morphological studies, yet the problem has been attacked, especially of late, by other methods. Sahli, in particular, has approached it from an experimental and chemico-physiological viewpoint. He has found that after an injection of leech extract into a rabbit's blood thrombi do not form about foreign bodies introduced into the blood. This, he believes, establishes the validity of the coagulation theory, since it is known that leech extract hinders the coagulability of the blood.

Before a meeting of the Society for Experi-

mental Biology and Medicine, held on February 21st, Leo Loeb reported on a series of experiments devised to clear up some of the discrepancies of various experimenters bearing on this problem. In arthropods, particularly in *Limulus*, he finds that the collection of blood cells around the foreign body, which leads ultimately to the formation of a hyaline thrombus, is due to a primary process of agglutination, and that coagulation processes may be excluded. Coagulation of the blood of the horseshoe crab outside of the body shows the same phenomena. In experimenting on birds and dogs he made the blood temporarily incoagulable by the injection of leech extract or peptone. Exact records of the coagulation time were made. Then followed experimental injuries to the bloodvessels, and microscopical examinations were made in great detail.

The author believes himself justified in concluding that in invertebrates as well as in vertebrates an agglutination of blood cells or of blood plates may take place around foreign bodies or at the place of injury of the vessel wall. This agglutination may be present without any simultaneous or preceding formation of fibrin being possible. The formation of such agglutination thrombi corresponds to the clumping of the same cellular elements outside of the body, where the agglutination can take place without being accompanied by any coagulative process. In birds the injection of the active principle of leech extract does not materially alter the readiness with which a thrombus is formed. In dogs, on the other hand, it is very probable that injections of hirudin may delay or prevent the formation of agglutination thrombi. The effect, however, is not directly due to the inhibition of the coagulation of the blood, but probably to changes in the blood which will still have to be determined. Loeb's conclusions are thus in accord with those of a number of workers who, from the results of bacteriological investigation and from the lessons taught by toxicologists working on blood poisons, believe that agglutination is a fundamental precursor to coagulation and the formation of thrombi.

THE RECOVERY OF LOST PERFECTION.

Almost from the time when vaccination came into general use as a preventive of smallpox there have been those who averred that to save a person from death by smallpox was merely to doom him to die of some other disease. Of course this was only a way of saying that vaccination did not confer immortality, but if we were to be guided by what the objectors intended to imply, we should never make the least move to cure or

prevent any disease. The old time carpers at vaccination have their counterparts now in those who deprecate the cure and prevention of tuberculous disease, holding that the elimination of persons whose natural power of resistance to the tubercle bacillus is weak is in accordance with a natural and beneficent law which it is wrong to oppose. They seem to think that the survival of these persons is sure to be fraught with the propagation of such a numerous brood of weaklings that the stamina of the race will be in great danger of being swamped.

But we cannot admit that those who make these objections are justified in doing so. As was pithily said by Dr. Ralph Stockman in a recent presidential address before the Glasgow Southern Medical Society (*Glasgow Medical Journal*, March), "it is not creditable that man—*Homo sapiens*, as the zoologists call him—with his large and well developed brain, should ever think of tamely offering up any of his fellows without a struggle to the attacks of a brainless bacillus." From the medical point of view, there is no human life that is not worth trying to save, and the most that can be conceded to the opponents of preventive medicine, we think, is that the marriage of two persons having each a pronounced tendency to the same morbid condition should be discouraged. It does not necessarily follow that either of them may not justifiably marry somebody. Which one of us is there among whose ancestors there may not have been some subject of a grave pathological condition now recognized as prone to be handed down from one generation to another? The survival of the fittest is not Nature's only law; she struggles for the recovery of lost perfection, and it often takes her wonderfully few generations to succeed in her effort. Insanity does not last forever in a family, and there is no fault, physical or mental, that is hereditary for all time. Many are the puny parents whose own sons and daughters—removed but one generation—are among those on whose promise great and warranted expectations for their future lives are founded. Nobody's hereditary and transmissible peculiarities are so deep and dark that he need despair altogether of his posterity or even of his immediate offspring.

TIC AND ITS MANAGEMENT.

During a long time this peculiar affection was considered incurable by many authors. Charcot, for example, used to abandon those patients to their fate. A close study of the disease and especially of the patient led a number of observers to the conclusion that the motor phenomenon was only a secondary manifestation of the affection,

and that the latter had a psychic basis. Brissaud, Meige, and Feindel pointed out the mental peculiarities in the patients. They consider the inability to control the tic movements as a consequence of a mental deficiency. Such individuals possess a special mentality, and according to Magnan their tics are "polymorphous manifestations of mental degeneracy," that is, the disturbed motor equilibrium corresponds to a disturbed psychic equilibrium.

Considering the subject from this broad standpoint, Brissaud conceived a mode of treatment which sometimes gives excellent results. It consists of motor reeducation and psychotherapy. As to the first, it includes two kinds of management—either the patient is ordered to observe absolute immobility or is taught to execute correctly slow and regular movements of the muscles affected by the tic. Pitres advised another method of motor reeducation. It consists in deep respiratory movements which must be executed slowly. The object of it is regulation of muscular action based upon education of the will. The same results may be obtained from exercises in reading or singing. The method of psychotherapy aims to exercise the patient's will. It consists in repeated suggestions. Both methods may be combined, but either of the two may be sufficient; the selection is to be made according to the susceptibility of the patient. In the *Journal de neurologie*, 1906, No. 1, Dr. Ioteyko publishes a very interesting case of tic of eight years' duration in which absolute recovery was obtained by using one of the methods of treatment mentioned. She has therefore overcome a disease of the will.

THE ÆTIOLOGY OF TROPICAL ULCERATIONS OF THE SKIN.

Subacute and chronic ulcerations of the skin of obscure origin have frequently been described by observers in tropical countries. Some of them are due to syphilis, some to leprosy, some to tuberculous disease, and some to yaws. In addition there are cases which appear to be due to none of these causes. During the past two years Richard P. Strong (*Philippine Journal of Science*, January) has studied twenty-four cases of chronic ulceration of the skin. In addition to cases due to the above mentioned diseases, which are fairly well understood, he finds three classes of tropical ulcerations: 1. Cases which resemble Delhi sore or Oriental boil. In such cases the lesion is single, of about the size of a half dollar, and contains a scanty, rather thick purulent material in a cavity lined by soft granulations. 2. Cases in which the lesion is also single and begins as a

small red spot which enlarges, becomes hard, slightly painful, discharges a small amount of fluid, and finally becomes covered with a black scab. Still later the scab disappears and leaves an extensive ulcer with an uneven base presenting areas of necrotic tissue or fresh granulations, covered on the surface with a few hardened crusts and patches of a grayish false membrane, and exuding a yellowish gray purulent material. 3. Cases in which the lesions are multiple and situated, as a rule, on the hands and the forearms, although in one instance they were found on the feet and the ankles. The lesions begin as small vesicles which either break and form ulcers or become pustules before they rupture. They appear to be self-inoculable. The ulcers are shallow, slightly painful, surrounded by an area of erythema, and covered with soft yellowish scabs, discharge a small amount of serous fluid, and are of extreme chronicity. In addition to the ulcerations there are usually nodular thickenings of the skin and the subcutaneous tissue.

The histological appearances of the ulceration of the first type are those of a chronic inflammation of the subcutaneous tissue with areas of acute inflammation, cellular infiltration, necrosis, and fibrin formation. Scattered throughout the tissue oval bodies are found, which resemble cockle shells in appearance and are from three to four micra in diameter. These bodies, which are considered to be parasites, are found in large numbers, both free and within endothelial phagocytic cells. They bear a striking resemblance to the Leishman-Donovan bodies and are considered by Strong to be forms of blastomyces related to these protozoa, and the cause of this type of chronic skin ulceration. The histology of the ulcer of the second type is that of extensive coagulation necrosis superficially, while deeper in the lesion there is an inflammatory œdema. The ulcer is found to extend by infiltration and subsequent necrosis. No protozoa were seen in the sections, and bacteriological examination gave a bacillus of the proteus group in symbiosis with the *Staphylococcus pyogenes aureus*. In the ulcers of the third type histological examination of a nodule which had not yet broken down showed a true endophlebitis, mesophlebitis, and periphlebitis in the subcutaneous tissue. After the formation of the ulcer there is degeneration of the cells of the mucus layer of the epidermis with slight round celled infiltration. Bacteriological methods show that the infection is not of bacterial origin. The nature of the lesion suggests the ætiological influence of a blastomycetic agent, but no such organisms were discovered in the sections.

News Items.

NEW YORK CITY AND STATE

The Geneva (N. Y.) Medical Society.—The programme for a meeting held on Thursday, April 5th, included a paper on Skepticism and Credulity, by Dr. C. F. Neider.

The Rochester (N. Y.) Academy of Medicine.—The programme for a meeting of the *Section in General Medicine*, held on Wednesday, April 4th, included a paper on Movable Kidney, by Dr. Richard Moore.

The Sydenham Medical Library has been opened in the Sydenham building, 616 Madison Avenue. The library is for the benefit of its members who are tenants of the building. Dr. Mark I. Knapp is librarian.

The Saratoga (N. Y.) Medical Society.—The programme for a meeting held on Friday, April 6th, consisted of a discussion on Floating Kidney, divided as follows: *Ætiology, Symptoms, and Diagnosis*, by Dr. J. B. Ledlie; *Treatment*, by Dr. G. F. Comstock; Discussion led by Dr. J. F. Humphrey and Dr. D. C. Moriata.

The Syracuse (N. Y.) Academy of Medicine.—The following programme was prepared for a meeting held on Tuesday, April 3rd: Report of Two Cases, with presentation of patients, by Dr. I. H. Levy; *Somniform Anæsthesia*, by Dr. J. J. Buettner; Report of a Case, by Dr. G. S. Britten; A New Instrument, by Dr. D. H. Murray.

The Buffalo Academy of Medicine.—The programme prepared for a meeting of the *Section in Surgery*, held on Tuesday, April 3rd, included the following papers: Fibroid of the Uterus Complicated by Pregnancy, by Dr. George Ben Johnston, of Richmond, Va.; Pressure Fracture of the Vertebrae, by Dr. Bernard Bartow.

The West Side Clinical Society of New York.—A meeting of this society will be held at the residence of Dr. W. C. Calhoun, 205 West One Hundred and Seventh Street, on Thursday, April 12th, at 8.15 p. m. Dr. C. R. Jackson will present the paper of the evening, entitled: A Contribution to the Study of the Spanæmic Heart.

The Medical Society of the County of Ontario, N. Y., will hold a quarterly meeting at Canandaigua, on Tuesday, April 10th. The programme for the meeting is as follows: The Management of Bronchopneumonia in Infants and Young Children, by Dr. F. Lansing Stebbins; Preventive Medicine, by Dr. C. B. Braman; The Blood and Urine in Diseases of the Liver and Gall Passages, by Dr. Charles O. Boswell, of Rochester, N. Y.

The Eastern Medical Society of the City of New York.—The next meeting of this society will be held on Friday, April 13th. The following papers will be presented: A Clinical Consideration of Acute Glandular Affections, by Dr. Martin W. Ware; Conditions of the Appendix Causative of Its Inflammation. Illustrated by specimens, by Dr. A. E. Isaacs; Cases Demonstrating the Corrective Treatment of Scoliosis, by Dr. D. D. Ashley.

The Medical Society of the Borough of the Bronx will hold its regular monthly meeting in the Masonic Temple, Washington Avenue near One Hundred and Seventy-seventh Street, on Wednesday evening, April 11th. The programme includes the following papers: The Rational Treatment of Diabetes Mellitus, by Dr. T. Stuart Hart; The Diagnosis of Status Lymphaticus, by Dr. Lewis A. Conner.

The Elmira (N. Y.) Academy of Medicine.—The following programme was arranged for a meeting held on Wednesday, April 4th: Remarks on a Case of Cancer of the Stomach, by Dr. H. R. Ainsworth, of Addison, N. Y.; Auto-intoxication in Pneumonia, by Dr. O. J. Bowman, of Horseheads, N. Y.; Report of Cases, by Dr. G. S. Carpenter, of Waverly, N. Y.; Indications for the Use of Normal Saline Solution, by Dr. LaRue Colegrove, of Elmira; *Ætiology of Acute Amygdalitis*, by Dr. H. W. Knight, of Seely Creek, N. Y.; Branchial Cysts, by Dr. Charles L. Squire, of Elmira.

The Society of Sanitary and Moral Prophylaxis.—A meeting will be held at the Academy of Medicine on Tuesday, April 10th, at 8.30 p. m. Papers on the following subjects will be read: In View of the Danger to the Family and the Race from Venereal Infection Should Not Safeguards Be Thrown Around Marriage? by Dr. John A.

Wyeth; The Value of Education and Treatment as Safeguards, by Dr. John A. Fordyce; Should Legislative Aid be Invoked to Penalize the Transmission of Sexual Infection in Marriage?, by the Hon. William Lindsay; What Other Safeguards are Available? Should the State Demand a Medical Certificate of Freedom from Any Contagious Sexual Disorder as a Condition of License to Marry? General discussion.

The Medical Association of Troy and Vicinity.—The programme arranged for a meeting held on Tuesday evening, April 3rd, included the following titles: Demonstration of a Case of Generalized Lichen Ruber Planus, by Dr. H. W. Carey; Demonstration of Cases of Locomotor Ataxia; Case of Argyria with Charcot's Joint; Case Showing Double Charcot's Joint; Case Showing Result After Amputation of Thigh for Charcot's Joint and Tabetic Foot; Case Showing Arthropathy of the Left Ankle Joint, by Dr. H. C. Gordinier; Charcot's Disease (an abstract), by Dr. W. Kirk, Jr.; Report of a Case of Meckel's Diverticulum, by Dr. Charles F. Kivlin; Demonstration of Organisms of: Syphilis, the *Spirochæta Pallida*; Sleeping Sickness, the Trypanosome; *Æstivoautumnal Fever*, the Crescent, by Dr. William Finder, Jr.

The Medical Association of the Greater City of New York.—A meeting of this association will be held in Hosack Hall, New York Academy of Medicine, 17 West Forty-third Street, Manhattan, on Monday, April 9, 1906, at 8.30 p. m. The following is the order of exercises: Report of the committee on the death of Dr. George R. Fowler, Dr. Robert Abbe, chairman. Discussion on Indications and Methods in Diseases of the Intestines and Peritonæum. Introductory, by Dr. John C. Hemmeter, Professor of Medicine, University of Maryland, Baltimore; Recent Advances in Intestinal Surgery, by Dr. Algernon T. Bristow; What has Surgery Left to Medicine in the Treatment of Peritonitis in Adults and Children? by Dr. Henry W. Berg; The Surgery of the Peritonæum, by Dr. Lewis S. Pilcher; On Diseases of the Lower Bowel, by Dr. Samuel G. Gant; General discussion (speakers limited to five minutes), by Dr. Christian A. Herter, Dr. Robert T. Morris, Dr. Robert Coleman Kemp, Dr. Forbes Hawkes, and others.

A New Field Hospital for the New York National Guard.—By a recent amendment to the military code, a new field hospital is attached to the headquarters of the New York National Guard. Dr. William E. Butler and Dr. G. Morgan Nuren, of the Twenty-third and Forty-seventh Regiments, of Brooklyn, have been appointed assistant surgeons to the hospital, the permanent headquarters of which will be in Manhattan, with temporary quarters wherever the State troops are encamped. This new hospital, it is believed, will greatly improve the facilities for caring for the sick or wounded when the National Guard is called out for camp service or riot duty. The field hospital will conform to army methods as far as the State service will permit, and will not in any way interfere with the present regimental hospital corps, which will remain unchanged. The hospital will be equipped with all the latest Government supplies, such as ambulances, wagons, stretchers, cots, etc. It will consist for the present of four officers and forty-six enlisted men. Dr. William S. Terriberry, formerly of the Twelfth Regiment, is surgeon in chief of the new hospital.

The New York Academy of Medicine.—A meeting was held on Thursday, April 5th, under the auspices of the *Section in Obstetrics and Gynecology*. The following programme was arranged for the meeting: Symposium on Gonococcic Infection in Women: (a) Sociological Aspects, by Dr. Egbert H. Grandin; (b) Medical Aspects, by Dr. Joseph Taber Johnson, of Washington, D. C.; (c) Surgical Aspects, by Dr. J. Wesley Bovée, of Washington, D. C. Discussion by Dr. Prince A. Morrow, Dr. William M. Polk, Dr. J. Riddle Goffe, Dr. H. C. Coe, Dr. Simon Marx, and others.

The Section in Pediatrics will hold a meeting on Thursday, April 12th, with the following order: Presentation of cases: (a) A Case of Persistent Ductus Arteriosus with Incomplete Ventricular Septum, in a Girl of Three Years of Age; (b) A Case of Pernicious Anæmia in a Girl of Eleven Years of Age, by Dr. Sara Welt-Kakels; (c) Congenital Heart Disease, by Dr. Eugene P. Bernstein; (d) Deformity of Chest from Fibroid Contraction of the Lung, by Dr. L. E. La Fetra; (e) A Sporadic Cretin Mongolian Idiot, and Microcephalic, by Dr. E. Mather Sill; (f) A Case of Transposed Viscera, by Dr. Louis C. Ager; Paper:

Notes on Root Cure at the Presbyterian Hospital, by Dr. W. P. Northrup.

The Section in Otolaryngology will hold a meeting on Thursday, April 12th, with the following order: Presentation of patients: (a) Report of a Probable Case of Intracranial Arteriovenous Anemysm; (b) Report of a Case of Histological Symptoms Upon which Mastoidectomy was Operated on Both Sphenoid Sinuses has been Performed, by Dr. W. S. Bryant; (c) Report of a Case of Brain Abscess Following Traumatism and Acute Mastoiditis. Operation; (d) Report of a Case of Hysteria Simulating Brain Abscess After Operation for Secondary Mastoiditis, by Dr. Alfred Wiener; Paper: Treatment of Otitis Media Acuta and Mastoiditis by Artificially Induced Hyperæmia; Bier Treatment, by Dr. S. J. Kopetzky.

The Section in Surgery held a meeting on Friday, April 6, with the following programme: Presentation of patients: (a) Fractures of the Tarsus (6 cases), by Dr. Leonard W. Ely; (b) Dislocation of the Metatarsals, by Dr. Leonard W. Ely; (c) Omental Hernia, with Suppuration Operation. (Case Report), by Dr. Forbes R. McCreery; (d) Perineal Lithotomy for Successful Removal of Vesical Calculus of Unusual Size in Child of Two and a Half Years, by Dr. C. C. Sichel; (e) Fractures and Dislocations Treated by Manual and Mechanical Massage; Several Cases, by Dr. Carleton P. Flint; (f) Congenital Dislocation of the Patella, by Dr. Charles Goodman; (g) Internal Hernia, by Dr. Charles Goodman; Papers: (a) The Operative Treatment of Fractures, with Description of a New Method, by Dr. Charles A. Elsberg; (b) Fractures of the Tarsus, Illustrated by Cases and Photographs, by Dr. Leonard W. Ely; Presentation of specimens: (a) Vesical Calculus from above mentioned case—(d), by Dr. C. C. Sichel; New instruments and apparatus: A self-retaining Trocar and Cannula for the aseptic evacuation of distended viscera, by Dr. Howard Lilienthal.

Society Meetings for the Coming Week:

MONDAY, April 9th.—New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); Medical Association of the Greater City of New York; Society of Medical Jurisprudence, New York; New York Medicohistorical Society (private); New York Ophthalmological Society (private); Gynecological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Corning, N. Y., Medical Association.

TUESDAY, April 10th.—New York Academy of Medicine (Section in Genitourinary Surgery); New York Medical Union (private); New York Obstetrical Society (private); Buffalo Academy of Medicine (Section in Medicine); Kings County, N. Y., Medical Association; Rome, N. Y., Medical Society; Medical Society of the County of Rensselaer, N. Y.; Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association; Clinical Society of the Elizabeth, N. J., General Hospital and Dispensary; Northwestern Medical Society of Philadelphia; Practitioners' Club, Richmond, Ky.; Richmond, Va., Academy of Medicine and Surgery.

WEDNESDAY, April 11th.—Medical Society of the Borough of the Bronx, New York; New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Society of the Alumni of the City (Charity) Hospital, New York; Society for Medical Progress, New York; Pittsfield, Mass., Medical Association (private); Philadelphia County Medical Society; Lenox, Mass., Medical and Surgical Society (private).

THURSDAY, April 12th.—New York Academy of Medicine (Sections in Pediatrics and Otolaryngology); Society of Medical Jurisprudence and State Medicine, New York; Brooklyn, N. Y., Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia; Church Hill Medical Society of Richmond, Va.

FRIDAY, April 13th.—New York Academy of Medicine (Section in Neurology); Yorkville Medical Association, New York (private); Brooklyn, N. Y., Dermatological and Genitourinary Society (private); German

Medical Society of Brooklyn, N. Y.; Medical Society of the Town of Saugerties, N. Y.

SATURDAY, April 14th.—Obstetrical Society of Boston (private).

Infectious Diseases in New York:

Report made to the Bureau of Health of the Health Department, for the following statement of new cases and deaths reported for the week ending March 31, 1906.

	Male	Female	Male	Female
	Cases	Deaths	Cases	Deaths
Typhoid	2	0	1	0
Smallpox	0	0	0	0
Scarlet fever	0	0	0	0
Measles	0	0	0	0
Whooping cough	0	0	0	0
Diphtheria	0	0	0	0
Epidemic typhus	0	0	0	0
Other	0	0	0	0
Totals	2	0	1	0

PHILADELPHIA AND THE MIDDLE STATES

The Chester (Pa.) Hospital is to have a new ward, plans for which have been prepared through the generosity of Mr. Alfred O. Destrong.

Columbia Hospital, Wilkensburg, Pa.—It is the intention of the managers of the Columbia Hospital, at Wilkensburg, Pa., to have the formal opening exercises on April 10th.

Philadelphia Personal.—Dr. W. W. Keen will abandon his private hospital at Seventeenth and Summer Streets on June 1st.

The New Infirmary of the Hayes Mechanics' Home, Philadelphia, was dedicated on March 27th. The erection of the infirmary was made possible by a bequest of \$10,000 in the will of John Smith.

New Hospital at Atlantic City.—The Board of Governors of the Atlantic City Hospital has announced that the erection of a new building will soon be begun on Ohio Avenue near Pacific Avenue, at a cost of \$100,000.

The Johnstown City Hospital Association was organized on March 22nd by the women of Johnstown, Pa., for the purpose of assisting the recently opened Johnstown Hospital.

Nurses' Home for the Allegheny General Hospital.—The directors of the Allegheny General Hospital, at Allegheny, Pa., are considering plans for a nurses' home in connection with the training school of the hospital.

The Kensington Dispensary for the treatment of tuberculosis was opened on Thursday, March 29th. The object of the dispensary is to assist the poor consumptive patients in this very large mill district of Philadelphia.

Sentenced for Criminal Malpractice.—Dr. Edwin Cooper, of New Castle, Pa., was sentenced to fifteen months in the penitentiary on March 24th, for conspiracy to perform criminal malpractice on a woman from Johnstown, four years ago.

Medicochirurgical College Trustees.—Associate Justice William P. Potter, of the Supreme Court, and Dr. William H. Green, formerly professor of chemistry in the Central High School, have been elected trustees of the Medicochirurgical College and Hospital.

The Summit (N. J.) Medical Society.—At a meeting of this society held on Friday, March 30th, a paper on the Diagnosis of Abscess of the Liver was read by Dr. Edward J. Ill, of Newark. This society was organized one year ago, and its membership, limited to twenty, embraces the physicians of the neighboring towns of Summit: Short Hills, Millburn, Springfield, and Chatham. Meetings are held on the last Friday of each month, except July and August.

The Advisory Board of Anatomists of the Wistar Institute, at Philadelphia, will meet at the institute on April 16-18, 1906, to consider important problems in the organization and promotion of anatomical research. The board is composed of the following well known anatomists: Dr. L. F. Barker, Dr. J. P. McMurrich, Dr. H. H. Donaldson, Dr. C. S. Minot, Dr. F. P. Mall, Mr. S. H. Gage, Dr. G. Carl Huber, Dr. G. A. Piersol, Dr. G. S. Huntington, and Dr. E. G. Conklin.

Scientific Society Meetings in Philadelphia for the Week Ending April 14, 1906.—Monday, April 9th, Section in General Medicine, College of Physicians; Wills Hospital

At a meeting of the Academy held on March 5th, the following officers were elected: President, Dr. John E. Greiwe; first vice-president, Dr. Henry W. Bettmann; second vice-president, Dr. Ellen F. McCarthy; secretary, Dr. Stephen E. Cone; treasurer, Dr. A. G. Drury; librarian, Dr. Arch I. Carson; censors, Dr. E. W. Mitchell, Dr. E. Gustav Zinke, Dr. David I. Wolfstein; trustees, Dr. Asa B. Isham, Dr. N. P. Dandridge, Dr. James F. Heady.

Statement of Mortality in Chicago for the Week Ending March 31, 1906, compared with the preceding week and with the corresponding week of 1905. Death rate computed on United States census bureau's mid year populations—1,000,000 for 1905, and 1,000,750 for 1906:

	Mar. 31, 1906	Mar. 24, 1906	April 1, 1906
Total deaths.....	106	106	100
Annual death rate.....	10.6	10.6	10.0
Sexes.....	11.80	11.55	11.11
Males.....	106	105	100
Females.....	276	228	204
Age.....			
Under 1 year.....	126	103	104
Between 1 and 4 years.....	50	39	31
Between 5 and 14 years.....	49	38	31
Between 15 and 44 years.....	237	230	206
Over 45 years.....	120	111	122
Causes.....			
Apoplexy.....	20	14	17
Bright's disease.....	34	25	56
Bronchitis.....	15	17	21
Consumption.....	19	13	50
Cancer.....	23	19	21
Convulsions.....	11	11	19
Diphtheria.....	8	9	6
Heart diseases.....	48	52	43
Influenza.....	5	6	4
Intestinal diseases, acute.....	28	32	30
Measles.....	5	3	11
Nervous diseases.....	30	30	10
Pneumonia.....	102	97	106
Scarlet fever.....	10	9	1
Smallpox.....	1	1	1
Suicide.....	8	3	11
Typhoid fever.....	7	10	6
Violence (other than suicide).....	28	18	25
Whooping cough.....	3	1	13
All other causes.....	121	112	98

GENERAL

The Medical Corps of the Army.—The bill to increase the efficiency of the corps by providing an additional number of medical officers and abolishing the grade of contract surgeon, was passed by the Senate on March 29th, by a vote of 42 to 5.

The National Association for the Study and Prevention of Tuberculosis.—At a recent meeting of the board of directors of the association, President Roosevelt and ex-President Cleveland were elected honorary vice-presidents of the association, and both gentlemen have accepted the election. President Roosevelt has already shown his warm interest in the work of the association, and is lending his influence, both official and personal, to the rapidly growing movement against consumption. The recent action of the Federal Government regarding conditions in the departments was taken by the President in direct response to a resolution of the national association, and his formal affiliation with that body will give added weight to its programme of organization and work.

Meetings of State Medical Associations During the Month of April, 1906:

Medical Association of the State of Alabama, annual meeting at Birmingham, April 17th.

Arizona Medical Association, annual meeting at Phoenix, April 24th and 25th.

The Medical Society of the State of California, annual meeting at San Francisco, April 17th, 18th, and 19th.

Medical Association of the District of Columbia, semi-annual meeting at Washington, April 3rd.

Florida Medical Association, annual meeting at Gainesville, April 18th, 19th and 20th.

Medical Association of Georgia, annual meeting at Augusta, April 18th, 19th, and 20th.

Medical and Chirurgical Faculty of Maryland, annual meeting at Baltimore, April 24th, 25th, and 26th.

Mississippi State Medical Association, annual meeting at Jackson, April 18th.

South Carolina Medical Association, annual meeting at Columbia, April 20th.

Tennessee State Medical Association, annual meeting at Memphis, April 10th.

The State Medical Association of Texas, annual meeting at Fort Worth, April 24th to 26th.

Tuberculosis and Government Employees.—President Roosevelt's crusade against tuberculosis in government departments at Washington, D. C., has resulted, says the *Engineering News* for March 15th, 1906, in an order issued by him to the heads of all executive departments to cause to be printed, posted and distributed in every Federal building under their control a set of rules to prevent the spread of tuberculosis. These rules have been formulated by a committee previously appointed by the President. Besides posting and distributing rules each department head must ascertain the names of all persons in his department afflicted by tuberculosis and present every such person with a copy of the rules named. Nonobservance of these rules may be made a cause of dismissal from the government service. The order provides for government examination of all persons regarding whom there is a doubt as to whether or not they have tuberculosis. The surgeons general of the Army, the Navy, and the Public Health and Marine Hospital Service are directed by the order to cause a thorough sanitary inspection of the public buildings and workshops under their respective departments, and are authorized to detail a sanitary board, or boards, for this purpose. The inspection of the public buildings and workshops other than those under the War and Navy Departments shall be conducted under the surgeon general of the Public Health and Marine Hospital Service. The sanitary board or boards thus appointed shall report upon: (1) Insanitary conditions immediately remediable. (2) Insanitary conditions requiring structural changes. The sanitary board or boards will make reports to the surgeon general of their respective services, who shall bring these reports before the committee appointed by executive order of December 7th, 1905, and said committee shall transmit a full report, with recommendations, to the President.

The American Medico-Psychological Association.—The sixty-second annual meeting of this association will be held in Boston, Mass., on Tuesday, Wednesday, Thursday, and Friday, June 12 to 15, 1906. The following papers have been promised: Women Nurses on Men's Wards, by Dr. C. P. Bancroft; Musings Concerning Nurses in Hospitals for the Insane, by Dr. W. P. Crumbacker; The Male Nurse, by Dr. George T. Tuttle; The Training School in the Insane Hospital, by Dr. Edward B. Lane; Night Nurses for the Insane, by Dr. C. R. Woodson; Maniacal Conditions in Young Adults, by Dr. Chester L. Carlisle; Precocious Insanity, by Dr. Sanger Brown; The Moral Imbecile, by Dr. Walter Fernald; Is Dementia Praecox the "New Peril" in Psychiatry? by Dr. John T. W. Rowe; Some Observations on the Medical Treatment of Insanity, by Dr. Max E. Witte; Some Requisites of a Successful Superintendent, by Dr. F. S. Whitman; Some Problems in Psychiatry and Penology, by Dr. Charles A. Drew; Further Experience in Family Care of the Insane, by Dr. Owen Copp; Colony System in New Hospitals for the Insane, by Dr. George A. Smith; European Hospitals for the Insane, by Dr. J. Clement Clark; An Institution Composite, by Dr. Everett Flood; Some Suggestions for Construction of Small Psychopathic Hospitals, with a Sketch of Plans, by Dr. Richard Dewey. Symposium on Dementia: The History and Use of the Term Dementia, by Dr. G. Alder Blumer; The Clinical Aspects of Paretic Dementia, with Special Reference to Differential Diagnosis, etc., by Dr. Irwin H. Neff; Primary, Secondary, and Terminal Dementia, by Dr. J. T. Searcy; Experimental Studies in Dementia, by Dr. William McDonald; Prognosis and Treatment of Dementia, by Dr. C. K. Clarke; The Polyneuritic Psychosis or Korsakoff's Disease, with Clinical and Pathological Reports of Two Cases, by Dr. Charles K. Mills and Dr. A. Reginald Allen; What is Comprised Under the Designation "Psychasthenia"? by Dr. Edward E. Mayer; Psychomotor Retardation, by Dr. E. Stanley Abbott; Cerebral Arteriosclerosis, by Dr. James B. Ayer; Malassimilation as a Causative Factor, by Dr. J. F. Edgerly; The Condition of the Heart in Dements, by Dr. Edward French; Insanity and Suicide, by Dr. Charles W. Pilgrim; Family Epilepsy, by Dr. W. P. Spratling; The Unity of Insanity, by Dr. H. A. Tomlinson; Deterioration and Practical Psychiatry, by Dr. John R. Knapp; The Opium Habit, and Why Its Victims are Growing More Numerous, by Dr. B. D. Evans; Recent Methods in the Care and Treatment of the Insane, by Dr. George B. Campbell; The Similarity in Symptoms in Cases of Tumor of the Brain and General Paralysis, by Dr. Henry C. Baldwin; Melancholia and Its Relation to Organic Fear, by Dr. J. W. Wherry.

AMERICAN MEDICINE

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drawing conclusions we must be keenly alive to the possible sources of error.

The Homœopathic Principle.—Peterson says that the following are the principles of the Homœopathic method: 1. That every drug has a specific action upon the human body, and that the drug so acted shall be supplemented by further experiments upon animals, and also by the results of poisoning, when that is possible. 2. That the conditions of disease are those which when present are cured by the same drugs.

the way are: 1. Simplicity in form and administration, the single remedy is natural corollary. 2. Precision. 3. It assists Nature, does not thwart or check her, and thereby fulfils that most important essential of all cures.

of sole leather of the thickness required is cut into the shape of a tongue. The edges are beveled, and the leather is touched on one side with a few drops of liquid glue. It is then placed on the sole of the shoe to which it adheres in the required position, i. e., so that its pressure is exerted just behind the heads of the metatarsal bones. The situation in which it gives relief is marked with pencil and the leather nailed in position by a shoemaker. It can also be inserted under the sole by raising the posterior edge of the sole and nailing it again in place. If there is too much pressure the leather is pared to the requisite thickness, as indicated by the comfort of the wearer. There are also manufactured leather and rubber buttons which are to be screwed to the bottom of the shoe, but they are not so firm, and distributing the pressure over a smaller area are less comfortable than the leather tongue.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

Cases, One of Which Complicated Pneumonia and
Septicæmia. By JAMES B. HARRIS.

Printed in Great Britain by the University Press, Cambridge

3. The Neurons (*To be Concluded*),
By LEWELLYS F. PARKER.

4. The Blood Clot Dressing in Mastoidectomy, Considered Physiologically. By H. O. REIK.

5. Some Observations on Cerebral Paralysis

By DANIEL R. BROWER.
6. Doubling of the Cardiac Rhythm and Its Relation to
Paroxysmal Tachycardia.

By ALBION WALTER HEWLETT.

7. The Formation of Uric Acid (*Concluded*).

BY LAFAYETTE B. MENDEL.

8. Treatment of Appendicitis in Its Various Stages as It Comes to the Surgeon, By C. H. WALLACE.

9. A Method for the Correction of Cicatricial Talipes
By A. J. [illegible]

1. **Acute Dilatation of the Stomach.**—Herrick says that the onset of acute dilatation is sudden. The pain may be severe; the vomiting is quite characteristic, brown, grayish, greenish, or black and large in amount; the urine is scanty, the bowels loose, or constipated; the temperature is often abnormal, and the pulse small and rapid; the picture of collapse is well marked. The abdomen is distended; the stomach tube withdraws a large amount, often very offensive fluid; and the stomach can be outlined as greatly enlarged. The diagnosis is not easy to be made; important is the succession and. Only an extremely small number of the diagnosed cases have recovered. The treatment should consist in frequent gastric lavage, saline solution by the mouth and under the skin, nutrient enemata, strychnine, and other stimulants hypodermically. A binder is also used. Some advocate gastrojejunostomy.

2. Head Injuries Accompanied by Intracranial Hæmorrhage.—Peairs reports three cases of head injury. He wishes to emphasize the necessity of prompt surgical interference under certain conditions, as compared with the results of waiting for the development of focal symptoms. He thinks that it is less dangerous to operate than to treat the patient expectantly.

4. The Blood Clot Dressing in Mastoidectomy, Considered Physiologically.—Reik believes that the surgeon is fully justified in using the blood clot dressing to complete the operation of mastoidectomy. The wound should be closed in such a way as to prevent the introduction of new infection and to promote primary union. He thinks that a good many failures with the blood clot dressing have been the result of faulty closure of the soft part. Of great importance also is absolute cleanliness and removal of every particle of infected material. For the subcutaneous method of suturing wounds silver wire is the best material to use, because it possesses antiseptic properties of its own.

5. Some Observations on Cerebral Paralysis.—Brower speaks of the pathology, ætiology, and treatment of cerebral paralysis, resulting from periarteritis or endarteritis, producing hæmorrhages, thrombosis, or embolism. The preventive treatment is the treatment of the arterial degeneration. Cases which do not have a specific history are much benefited by a course of gold and sodium chloride, with the pulverized resin of guaiac, to be put dry in a capsule, and administered before meals. Kidneys, skin, and bowels should also receive due attention. The treatment of the apoplexy depends on the diagnosis of the lesion. In hæmorrhage arterial tension should be reduced; Croton oil administered, to promote the influx of blood into the abdominal vessels; ice should be applied to the head, and mustard plaster to the feet. Tincture of aconite should be given. In thrombosis the treatment should be diametrically opposite. Arterial tension is to be increased by strychnine and other cardiac tonics, active purgation is to be avoided. In the great majority of cases the safe treatment will be characterized by inactivity. With the disappearance of the apoplexy attention should be given to the paralyzed muscles.

7. The Formation of Uric Acid (Concluded).—Mendel concludes his discussion of the formation of uric acid, calling attention to the peculiar rôle of enzymes in the formation and destruction of uric acid. In reviewing the more recent experimental observations he considers the probable endogenous and exogenous antecedents, and details the probable chemical reactions involved in the genesis of uric acid from other purin compounds. There are many gaps in the chain of uric acid metabolism, where the missing links remain to be discovered.

8. Treatment of Appendicitis in Its Various Stages as It Comes to the Surgeon.—Wallace is of the opinion that appendicitis is always a surgical disease, and every patient should receive operative treatment within the first forty-eight hours. During the rapidly progressive stage, i. e., on the third, fourth, or fifth day, operative measures increase rather than lessen the mortality. Lavage and peristaltic rest by rectal feeding should then be the treatment, as advocated by Osler. If the case shows nonprogressive or subsiding symptoms, it should be deferred to a more favorable operative period, while operation should be urged in every interval or chronic stage. In cases which show abscess two safe operations should be done rather than one hazardous operation, first opening the abscess and later removing the appendix. In diffuse peritonitis the least manipulation possible means the least mortality; all dependent cavities should be carefully incised, drained, but not flushed; and, secondarily, the offending organ should be removed.

9. A Method for the Correction of Cicatricial Talipes Calcaneus.—Jonas reports two cases of correcting this deformity. His operation consists in using a triangular flap, so as to cover the affected joint, and to extend a considerable distance above it. The resulting V shaped defect is then covered with thick Thiersch's flaps. The flap should be long enough, and its point should begin no lower down than the junction of its lower and middle third. When the triangular flap is used for ankle joint deformities, the base line should always extend from one malleolar hip to the other, because (1) all resisting tendons, ligaments, and other resisting structures can be easily severed; (2) there is no tension in any portion of the flap; (3) the tibioastragaloid joint can be exposed and, should it be deemed necessary to do an arthrodesis, the articular surfaces can be easily removed with a chisel, and an ankylosis of the joint can confidently be expected.

MEDICAL RECORD.

March 31, 1906.

1. A New Instrument for Measuring All the Diameters of the Pelvis in the Living Woman,
By SIDNEY D. JACOBSON.
2. The Treatment of Meningococcus Meningitis in the First Medical Division of Bellevue Hospital During the Early Summer of 1905, By EDWARD L. DOW.
3. Two Unusual Epileptic Histories,
By SMITH ELY JELLIFFE.
4. Operative Technics and After Treatment for Mastoiditis with Epidural Complications.
By W. SOMMER BREYNT.
5. Ulcus Rodens (Mooren),
By H. H. SEABROOK.

1. A New Instrument for Measuring All the Diameters of the Pelvis in the Living Woman.—Jacobson describes an instrument which, he thinks, will enable a physician to measure easily, rapidly, accurately, and painlessly all the important diameters of the pelvis in the living woman. The instrument is constructed of steel, and consists of two branches, hinged together at the bottom end, in the form of calipers. It is composed of an outer semicircular branch and an internal irregularly S shaped branch, each one being attached to a handle. It has a movable gauge which slides on a grooved track and which can be fixed in any part of this track by a set screw. The internal or movable branch is attached to its handle by a pin and socket and has a loop on each side, into which a sliding catch can be made to slip which will securely hold the inner branch in either of its two positions, namely, when it points toward its fellow or when it points away from it. The upper ends of the branches are ball pointed and these points or tips can be made to separate about twelve inches. The distance of their separation is indicated on the sliding gauge. A leather belt about two inches wide, graduated in inches, halves, and quarters, beginning at the buckle and reading from right to left, accompanies the instrument. The internal or movable branch is graduated in inches, halves, and quarters from the ball at its top end downwards. The modus operandi is as follows: The bladder and rectum being empty, the patient is laid on her left side upon a table and her knees are drawn up and kept that way. The belt is put around her hips so that the extreme end of the buckle is just over the symphysis pubis and exactly in the median line of the body. The belt in passing around should be about in the centre of the sacrum. The belt is buckled on so as to be fairly tight. Two fingers of the right hand are lubricated with soap and passed into the vagina. The pelvis is now thoroughly explored. The points to be particularly noted are the size of the introitus, the rigidity, or relaxation of the perinæum, the capacity of the vagina and its direction, the degree of abdominal tension as shown by low situation of the uterus and bulging downwards of the vaginal walls; the pelvic walls are explored for any

state being much clouded. After an attack of severe convulsions, the right arm and parietal region she improved; the convulsions disappeared, she gained in weight, her left arm grew and the muscles approved. On examination of the ear a small old cicatrix on the right drum membrane was found. It is probable that the development of the middle ear and the subsequent partial destruction caused the paralysis and later epileptic phenomena. The recovery may be attributed to the rupture of a secondary cyst and the relief of the pressure. The child then died. The post-mortem examination of the brain showed the following facts. A second troche with castor oil failed to act, and the child had no movement for one day. The next day the patient was found to be unconscious and in convulsions. Two days later she became conscious. But soon she became temporarily blind and irritable, with many attacks of convulsions and nephritis. Three weeks later she improved, when a month later she had a relapse, since when she is slowly improving; she still has some attacks, mostly mild and only of momentary duration. The well known poisonous symptoms of santonin offer a plausible explanation of this case.

4. **Operative Technics and After Treatment for Mastoiditis with Epidural Complications.**—Bryant describes two cases which, he thinks, illustrate three interesting and important points in the operation for mastoiditis: First, the use of the front bent gouge in preference to a mallet driven instrument; second, the use of the modified blood clot in aural surgery; third, the question of packing the mastoid wound after exposure of the dura mater. The best results in these operations are obtained: (1) By the use of the front bent gouge instead of chisels or other gouges requiring the mallet, because it allows the convalescence to begin more quickly. (2) By closing the mastoid wound and allowing it to collapse and partially fill with a blood clot to promote union by first intention, thus shortening the convalescence. (3) By allowing the anterior flap of the wound holding the pinna to fall inward and backward and lie on the posterior and inner wall of the wound because this improves the post aural cosmetic effect. (4) By avoidance of packing which causes the formation of a large cavity requiring a long time to granulate up. (5) The exposure of the dura mater is a complication of no special importance.

March 17, 1906.

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2. **Cancer.**—Wade thinks that in studying the cancer problem, too little attention has been paid to the conditions involved. There is good reason to believe that the origin of cancer may be intimately connected with senile changes in the nerve endings or in the cells, or perhaps in both these combined. It is possible that motor nerves have some inhibitory influence, and while they do not drive the cells in one

direction, they prevent them from developing in another, for example, from the power of growth. The fact of cancer being a disease of senility, which of itself is a period of degradation of tissue, tallies with the supposition that cancer may be primarily due to a degradation of the tissue in which it arises. It is quite certain that underlying the first visible evidence of cancer development, whether this be the gametoid cells of Farmer, or others, or the secreting cells invaded by leucocytes of Forbes-Ross, there must be some invisible antecedent influence leading to these changes.

3. Transmission of Syphilis.—Grünbaum and Smedley inoculated a male chimpanzee with syphilis by rubbing into the eyebrow a portion of a chancre freshly excised. Signs of infection, indicated by some duskeness of the skin and a small nodule, appeared on the sixteenth day. For some days later these signs seemed to regress, but later they increased, and still later exfoliation of the skin, leaving a surface yielding a serous or seropurulent secretion, occurred. The cervical glands on the same side became enlarged, but the general health of the animal seemed unaffected, and there was no rise of temperature. Although sought for, the spirochæta pallida was not found until the thirty-seventh day after inoculation.

4. Chloroform and Ether Narcosis.—W. H. Thompson has studied the effects of anesthetics upon renal activity, and summarizes his results as follow: Chloroform. 1. In the early stages, when the anesthesia is light, the quantity is frequently increased. During free anesthesia the secretion is always diminished, and may be suppressed. 2. The after effect is always a great increase. 3. The total excretion of nitrogen is greatly reduced. 4. The urine secreted during chloroform anesthesia contains less nitrogen than the normal urine. Hence chloroform affects not only the blood flow through the glomerulus, but also the secretion of nitrogenous solids into the tubules. 5. In prolonged narcosis, with marked diminution of urine volume, there is a considerable exudation into the renal tubules of leucocytes which subsequently escape with the urine. 6. The excretion of chlorides is much increased both during and after chloroform narcosis. 7. Albumin appears in a small proportion of experiments after chloroform inhalation. 8. Reducing substances other than glucose are almost invariably increased.

5. Junker's Chloroform Inhaler.—Chapman has carried out some densimetric experiments with a view to ascertaining the percentages of chloroform supplied by Junker's inhaler, and reaches the following conclusions regarding the apparatus: 1. The plain vulcanite mask is the safest. 2. The compression bulb must be worked gently and steadily. 3. The air inlet apertures should never be closed. 4. It would be better to maintain the level of liquid chloroform in the graduated bottle at five drachms rather than at eight drachms. 5. The apparatus is not suitable for prolonged operations, but is otherwise safe for a short anesthesia.

6, 7. Ethyl Chloride.—McCardie states that consideration of the average death rate and of the chemical constitution of ethyl chloride make it appear to be less safe than ether and far less safe than nitrous oxide. The latter should be used whenever it is reasonably possible, and ethyl chloride when nitrous oxide is impossible and when ether and chloroform are unnecessarily lasting and powerful in their effects. Ethyl chloride is to nitrous oxide as chloroform is to ether, i. e., ethyl chloride may be compared to chloroform in the ease and convenience of its administration and its high power of narcosis. Knight gives the details of the administration of ethyl chloride, its dosage, and the after effects. It is not nearly as safe as nitrous oxide in the hands of the untrained, but it is taken exceedingly well by children of a few weeks or months, and hence is an excellent anesthetic for circumcision. It

is not wise to use it if a purgative has been given and its action is still proceeding. It is very reliable, only in rare cases is it impossible to get a patient under its influence. As a preliminary to chloroform it is a pleasure to use, but is not suitable for prolonged operations.

LANCET.

March 17, 1906.

1. The Diseases of the Rectum, of Professor James Struthers (James Wilson Lectures, I), By J. SHEPHERD.
2. Epidemic Disease in England. The Evidence of Variability and Permanence of Type, By J. H. COLEMAN.
3. Phlebitis and Thrombosis. (Hunterian Lectures, III), By W. HAWARD.
4. A Case of Splenomegalic Polycythæmia, with Report of Post Mortem Examination, By R. HUTCHISON and C. H. MILLER.
5. Spirochæta Pallida (Spirochæma Pallidum) in Syphilis, By J. SHERWOOD.
6. Rupture of the Uterus with Escape of the Child Into the Abdominal Cavity: Delivery Per Vias Naturales; Recovery, By T. HUNTER.
7. A Series of Four Cases of Multiform Streptococcal Infection Apparently All Derived from the Same Source, By A. LATHAM, E. P. PATON, and H. D. BRICE.
8. A Note on Local Anæsthesia for Cosmetic Operations, By L. E. STAMM.
9. On Some Heterogenetic Processes, By H. C. BASTIAN.
10. A New Microbe, Pathogenic for Rodents, Bacillus Equi, By E. KLEIN.

3. Phlebitis and Thrombosis.—Haward, in the third of his Hunterian lectures, continues the discussion of simple noninfective thrombosis. Thrombosis of the cerebral sinuses of this type is met with chiefly in overworked, chlorotic young women, in children who have suffered from long continued diarrhœa, and in conditions of exhaustion following fevers. The symptoms are severe headache, drowsiness, vomiting, convulsions, and paralysis. These may subside and end in complete recovery, or they may go on to coma and death. In infective cerebral thrombosis there is added the rigors, sweating, and irregular temperature, significant of pyæmia. Secondary thrombosis occurs in connection with adjacent diseases, chiefly of the ear. The symptoms are usually those of pyæmia, three quarters of the patients dying of pulmonary infection. Thrombosis of the mesenteric veins is most often associated with intestinal ulceration. Thrombosis of the portal vein may arise by extension from a mesenteric vein, or from gastric, or intestinal disease; it may be due to pressure by tumors or by the interstitial growth of cirrhosis or syphilis; and it may depend upon disease, degeneration, or injury of the coats of the vein. Venous hæmorrhoids are very prone to become thrombosed, especially when protruded through the sphincter, the clot being very liable to the invasion of microorganisms. Thrombosis of the renal veins may be primary and marantic or the consequence of extension from the vena cava; it may also depend upon diseases of the kidney and upon pressure of neighboring tumors. When of sudden onset it is manifested by the appearance of blood or albumin in the urine, and may be rapidly fatal. Thrombosis of the splenic vein is usually due to extension from the vena cava; it may be the consequence of suppuration or cancerous disease of the pancreas. There are no characteristic symptoms, beyond rapid swelling of the spleen. Thrombosis of the prostatic veins is not very rare, and may be the first step in the causation of prostatic abscess. Thrombosis of the corpus cavernosum of the penis is not very common, and is usually associated with the gouty constitution. The treatment of a case of simple, noninfective phlebitis or thrombosis consists chiefly in the enforcement of complete rest. Every possible precaution

was to have caused the development of it, this being the chief danger. The patient must be treated against the tendency to relapse, and the treatment must be continued until the patient is cured. The treatment must be continued until the patient is cured. The treatment must be continued until the patient is cured.

5. Tuberculous Proliferation of Bacteria

The author has observed the development of tuberculous proliferation of bacteria in the lungs and other organs of the body. The author has observed the development of tuberculous proliferation of bacteria in the lungs and other organs of the body. The author has observed the development of tuberculous proliferation of bacteria in the lungs and other organs of the body. The author has observed the development of tuberculous proliferation of bacteria in the lungs and other organs of the body.

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LYON MEDICAL

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1. The Transverse Incision of the Superficial Layer of the Skin

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2. The Incision of the Skin

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less, but positive obstacles to the usefulness of the hand. He considers that such crushed fingers should be sacrificed to promote the future usefulness of the hand.

2. Morbidity and Mortality Among Carpenters, Etc.

Landouzy presents under this title a contribution to the study of tuberculosis as it is related to the various occupations. Of the 257 patients considered eighty-two had tuberculous affections. Of the tuberculous twenty died, of the nontuberculous twenty-four. Among the carpenters, who numbered 202, the tuberculosis was almost exclusively pulmon-

3. A Coloring Reaction of Fatty Acid

Jacobsen finds that the neutral fats are not stained by a weak solution of the phenic fuchsin of Ziehl, while the fatty acids are. The insoluble soaps are also stained, but usually to a less degree.

4. Electrotherapy for the Constipation of Neuras-

tic Patients.—Cattaneo maintains from his personal experience the claims which have been made in favor of the efficacy of electricity in the treatment of the majority of these cases. He uses the galvanic current of high intensity with periodic interruptions and reversals. The treatment should be administered daily at first, then, after improvement had been obtained, every other day, then every third day, and the intervals are gradually lengthened, until the treatment is finally stopped.

SEMAINE MEDICALE

1. The So Called Epidemic Nature of Appendicitis. By Dr. L. CHEINISSE.
2. The So Called Epidemic Nature of Appendicitis. By Dr. L. CHEINISSE.

1. The So Called Epidemic Nature of Appendicitis.—Cheinisse claims that appendicitis is not a new disease, and disputes the arguments of those writers who have asserted that it is of an epidemic nature.

2. Pulsatile Points of the Radial Artery in Arteriosclerosis.—Minervini locates these three points, which are due to hypertension and arterial hypotony, at the coronoid fossa, where the radial leaves the brachial, at the junction of the upper and middle thirds of the vessel, and at the wrist, where the pulse is usually felt. The reasons for the existence of these pulsatile points are the angles or curves made in the course of the artery at these points.

BERLINER KLINISCHE WOCHENSCHRIFT

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5. The So Called Epidemic Nature of Appendicitis. By Dr. L. CHEINISSE.
6. The So Called Epidemic Nature of Appendicitis. By Dr. L. CHEINISSE.
7. Surgical Treatment of Laryngeal Tuberculosis. By G. FINDER.

1. Rhachitis.—Von Hansemann points out the tendency of rhachitic children to acquire infectious diseases which are frequently fatal to them, as well as tuberculosis of the lungs and glands. Kyphoscoliosis is a frequent development of rhachitis. The author points out that wild animals do not acquire rhachitis, and it is not definitely proved that the disease exists among primitive peoples. Because, on the other hand, domestic animals frequently suffer from the disease, the author believes domestication *per se* plays a rôle in the aetiology, that is, insufficient exercise and fresh air. In children, the food, close, stuffy rooms, and tight cloth-

ing are further ætiological factors, but the disease is also hereditary.

6. Aortic Disease.—Bruhns has examined very minutely the aorta of nine children with congenital syphilis. In six, he found histological changes, although there was no macroscopic evidence of disease. He found a cellular infiltration into the adventitia, especially in the proximity of the vasa vasorum. In the median coat, some cellular infiltration was also noted. These findings agree with what Chiari has called productive mesaortitis in cases of acquired syphilis.

7. Laryngeal Tuberculosis.—Finder says the local treatment must always be accompanied by general treatment. Curetting and cauterization with lactic acid are the principal means of local treatment. Sometimes temporary cures are effected by this means, even in cases far advanced. For adaptation to surgical treatment, the disease must not be too extensive, and must be under the eye and hand of the operator at all times. Cachectic and febrile patients do not lend themselves well to curettage. A curative tracheotomy is rarely performed, and is best adapted to children, although it has lately been suggested as an adjuvant measure to the induction of abortion in women suffering from the disease. Laryngofissure and total extirpation of the larynx are not to be considered.

ZENTRALBLATT FUER GYNAEKOLOGIE.

March 3, 1906.

1. Fatal Hæmorrhage in a Leucæmic, Pregnant Woman.
By BOSTETTER.
2. The Graphic Method in Gynæcology.
By R. DE SEIGNEUX.
3. Radium Rays in Cases of Inoperable Cancer.
By SCHÜCKING.
4. Obstetrical Cases.
By J. GOLDENSTEIN.

1. Fatal Hæmorrhage from Leucæmia.—Bostetter reports the case of a primipara who, in her seventh month, entered the clinic on account of bleeding. The physical examination disclosed no cause for the hæmorrhage, although there was some dullness over the chest, posteriorly on both sides, and the urine contained considerable blood. With every symptom of internal hæmorrhage, the patient suddenly died. There had been a suppurative, bilateral tonsillitis, but the autopsy disclosed a leucæmia. The author suggests that the tonsillitis may have been the inception of a sepsis which, as is well known, predisposes to hæmorrhage, but the leucæmic findings and the presence of large quantities of blood in both pleural sacs explains the cause of death sufficiently.

2. Graphic Method.—De Seigneux depicts a chart on which can be inscribed graphically the menstrual changes, abnormalities, and phases of pain. By means of it, ectopic pregnancy, abortions, but especially uterine cancer can be more easily diagnosed. The author points out the very evident ease which the method imparts to a general oversight of the patient's condition and complaints, far superior to the ordinary way of taking an anamnesis.

3. Radium Rays.—Schücking speaks of some favorable results which he has had, but admits that the radium rays cannot yet be called curative in their action upon inoperable cases of cancer. It has the advantage over the Röntgen rays of permitting a greater intensity of radioactivity and of a longer period of application.

4. Obstetrical Cases.—Goldenstein reports three interesting cases, the first, a miscarriage at eight months in a woman with a double uterus; the second, a case in which a hydrocephalic child was spontaneously born, and the third, a case of ultrauterine skeletalization.

GAZZETTA DEGLI OSPEDALI E DELLE CLINICHE.

February 25, 1906.

1. Tuberculosis in the Italian Army,
By CLAUDIO SFORZA.

2. Autocæm Progressus.
By MICHEL LANGELOTTI.
3. Primary Psoas Abscess, Rapidly Fatal, and Simulating Perityphlitis.
By GIOVANNI SETTI.
4. A Case of Hyperthermia.
By GIOVANNI MAZZAROTTO.
5. The Kidneys and the Liver in Animals Deprived of Spleen.
By TORINDO SILVESTRI.
6. Some Therapeutical Curiosities,
By ATURO CAMPANI.

1. Tuberculosis in the Italian Army.—Sforza shows that the mortality of the Italian army from tuberculosis has diminished in the years 1883 to 1902 from 11.76 per thousand to 3.70 per thousand. The hygienic conditions among the soldiers have greatly improved within that space of time, and it is to this that the diminution in mortality is largely due. Koch has laid particular stress upon the tendency of military life to promote the spread of tuberculosis, and especially upon the confined life in close quarters in barracks as a factor in the dissemination of this disease. The relatively ill fed condition of the average soldier, and his tendency to indulge in alcoholic stimulants, are also factors. Another important predisposing cause is the change from the free country air to the confined air of the city garrison, which so many soldiers have to undergo after enlistment.

3. Fatal Primary Psoas Abscess, Simulating a Perityphlitis.—Setti reports an interesting case of psoas abscess caused by swallowing of a needle, with a small piece of thread attached. The patient was a child of eight years of age, and the symptoms left the diagnosis uncertain between tuberculous hip joint, psoas abscess and appendicitis. The author calls attention to the possibility of a mistaken diagnosis of psoas abscess of the right side for appendicitis.

4. A Case of Hyperthermia.—Mazzarotto reports a case of very high temperature which lasted for eleven days and reached 44.6° C. in a hysterical woman, who during all this time did not show any of the symptoms of fever, save the elevation of temperature. The patient had for weeks before been suffering from intestinal paralysis resulting from typhoid fever, from incontinence of urine, and from amenorrhœa; but with the onset of the attack of hyperthermia all these symptoms disappeared almost completely. The author regards the case as one of apyretic hysterical hyperthermia, and calls attention to the necessity of differentiating this condition from real fever.

ROUSSKY VRATCH.

February 4, 1906.

1. The Use of Magnesium Salts in Anæsthesia,
By N. P. KRAVKOFF.
2. Congenital Anomalies of the Penis,
By V. L. BOGOLITOFF.
3. Unusually Abundant Discharge of Cerebrospinal Fluid From the External Auditory Meatus in a Patient with Unperforated Tympanic Membrane,
By L. T. LEVINE.
4. Hypertrophy of the Suprarenals After Removal of Ovaries,
By N. E. THEODOSOFF.

1. Meltzer's Method of Anæsthesia with Magnesium Sulphate.—Kravkoff's article is practically a review of the work of S. J. Meltzer, of New York, who several months ago announced his method of anæsthesia by means of intraspinal injections of solutions of magnesium sulphate. In commenting upon the experimental and clinical data recorded by Meltzer and Auer, Kravkoff declares that the results with this method have thus far been very unsatisfactory, and that anæsthesia with magnesium sulphate is far more dangerous than that with cocaine, eucaïne, stovaine, etc. Kravkoff thinks that if the injection of a twenty-five per cent. solution of magnesium sulphate is followed by such serious consequences as have been recorded, the best way to avoid these dangers is to refrain from the employment of this method of anæsthesia. The methods

especially in cases which were not relieved by bismuth alone. The conditions in which it was used were gastric ulcer, chronic catarrhal gastritis, and cancer of the stomach. Pain is lessened, hæmatemesis is arrested, and those who have been unable to retain the smallest quantity of food by the mouth are soon able to retain milk and farinaceous foods. This treatment is not available in cases in which the pyloric region is involved, and in which the symptoms are due to mechanical obstruction. Surgical treatment alone is indicated for such cases.

AMERICAN JOURNAL OF SURGERY.

March, 1906.

1. An Operation for Cleft Palate, By H. F. SMITH.
2. Observation for Kretley's Operation for Undescended Testis, with Report of a Case, By W. M. BRICKNER.
3. The Surgical Treatment of Obstinate Dyspepsia, By W. F. CAMPBELL.
4. The Choice of Splints for Hip Disease, By E. W. RYERSON.
5. The Preliminary Training of a Surgeon. A Word to Young Men, By A. C. BERNAYS.
6. Plaster of Paris and How to Use It, By M. W. WAKE.
7. Remarks on Local Anæsthesia, with Especial Reference to Its Employment in Genitourinary Work, By S. W. SCHAPIRA.
8. Some Observations in the Ear Clinics of Berlin During the Summer of 1905, By C. H. MAY.

3. **The Surgical Treatment of Chronic Dyspepsia.**—Campbell observes that we are learning that alterations in the digestive secretions are not to be treated as primary symptoms; that they are secondary to some definite anatomical lesion, that the mechanism is somewhere impaired, and that only accurate definite location of the cause will suggest the proper treatment. The duodenum is considered the centre of diagnostic difficulty, it receives the contents of the stomach, the bile duct, and the pancreatic duct, the right kidney lies behind it, and below it is the appendix. All are connected through their nerve supply. Nine cases are narrated in which dyspepsia was the prominent condition and all were subjected to surgical treatment, with more or less benefit. It was believed that as these cases are more carefully diagnosed and are treated surgically many neurasthenics and chronic dyspeptics will be restored to normal health.

7. **Local Anæsthesia.**—Schapira considers that the key to success in local anæsthesia lays in the discovery that the skin can be anesthetized by intradermal infiltration with cocaine or other analgesic agents. Corning discovered that the anæsthetic action of cocaine can be prolonged indefinitely by arresting the circulation in the anesthetized area. All the normal organs and tissues of the body are devoid of sensibility with the exception of the papillary layer of the skin and the nerves, and if these can be anesthetized, sensitiveness can be practically obliterated. General or cerebral anæsthesia is frequently compulsory in major surgery on account of the so called psychic pain. Suppression of sensory impressions may be produced (1) by paralyzing the peripheral nerve ending, (2) by obstructing the path of such impressions in the nerve trunks. Local or Schleich infiltration suppresses sensibility by producing artificial œdema of the tissues. Both the infiltration pressure and the chemical action of the drug injected are factors in producing anæsthesia and analgesia. Beta eucaine and other substances less toxic than cocaine have developed a preference for anæsthesia by chemical action. The regional method of anæsthesia consists in infiltrating the skin and then injecting into the deep nerve fibres or the nerve trunk which supplies the operative field. The combined method consists in using two or more local anæsthetics in the same operation, or in preceding, or supplementing the local anæsthetic by the use of morphine or a general anæsthetic.

Proceedings of Societies.

MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Meeting of February 12, 1906.

The President, Dr. T. E. SATTERTHWAIT, in the chair.

PUBLIC WATER SUPPLIES AND SEWAGE.

Filtration of Public Water Supplies.—The first paper was by Major C. E. GILLETTE, of the Engineer Corps of the army. Often large sums were spent, he said, to get a water supply from mountainous or sparsely settled regions, but immunity from typhoid was not thereby obtained. Maps accompanying the report of the census of 1890 indicated rather more typhoid in the country along clear streams in the Appalachian region than along the muddy streams of the Atlantic Coast plain or of the Mississippi valley. This was probably partly due to the fact that if a clear and pure stream happened to get contaminated, the germs lived much longer than they did in muddy waters teeming with other bacteria. One typhoid case anywhere within the watershed might pollute the entire supply. It would, therefore, appear that no source which was subject to inflow of surface water was safe unless measures were taken to remove the dangerous bacteria before the water was used. Three methods of making such removal existed in nature: 1. Quiescence for a long time, to permit the germs to die or settle to the bottom. 2. Flow for long distances in streams bearing sand or silt. 3. The process of soaking into the ground, with a reappearance as springs or artesian wells.

Artificial means of purifying large surface water supplies had generally been made in imitation of the first and third of these natural processes. Large reservoirs allowed both the mud and the bacteria to settle, but they were open to the objections that under certain conditions they developed growths which were disagreeable, if not injurious, that the accumulations in the bottom became very foul, and that their construction of a sufficient size was expensive and often impracticable. The system of slow sand filtration was undoubtedly the most practical and reliable method yet devised for general use with large water supplies. With certain muddy waters, however, the expense of operation became very great. Under such conditions many cities had adopted a system of mechanical filtration in which the mud was first coagulated by alum, or some equivalent, and then strained out with the bacteria by forcing the water rapidly through a coarse sand strainer, which was cleansed at intervals by mechanical means. Slow sand filtration consisted in causing the water to sink slowly through a bed of clean sand from one to three feet thick. Although originally devised as a simple natural strainer, it had been discovered that the action was more complicated and effective than mere straining. In the operation of a filter the results were generally poor until the sediment and bacteria, settling on the surface of the sand had partly clogged the interstices and formed a thin gelatinous layer over the particles of sand forming the surface of the filter. This *Schmutzdecke*, as the Germans called it, undoubtedly constituted the most essential part of the system.

As the quickness with which the *Schmutzdecke* was formed, as well as its efficiency, must depend somewhat upon the amount of bacteria contained in the water, it would seem unnecessary or even inadvisable for a city to go to the enormous expense of bringing in a mountain supply to be filtered, if a reasonably good supply could be obtained at a nearer point. The bacteria in the nearer supply, while they would injure it

The discussion would be furnished by a very satisfactory supply of water to the demand. This principle, however, should be applied with some limitations. It was not possible to go to the source which was positively dangerous to the health, to get a supply contaminated by the same source, but to get it from river water, taken from a point some miles below a large city, was generally sufficiently good for filtration, while it might be much better than that of a mountain supply, both from the smaller first cost and from the better adaptation for filtering purposes. Thus, in the autumn of 1891, the water from the Croton was more impure than the water from the Croton of New York to go to the city, and the water from the Croton to be filtered if a supply of water could be obtained at less cost from the Hudson at the point where the proposed conduit crossed that stream. Major Gillette said he had endeavored to learn from the records in the Filtration Bureau in Philadelphia, what constituted the best quality of water of Schuylkill River water at that point, and to determine by the records of the slow sand filters what conditions of the applied water had given the greatest water and at the same time good results. Having given the results of a number of observations, he concluded as follows: The various elements of the water from the Schuylkill have been tabulated and plotted on a large variety of assumptions; but thus far about all that can be said is that in general the removal of the mud improves the water for filtration, partly by lessening the sediment, partly by removing excess of bacteria, and perhaps partly by the incidental improvement of the water in some other respect not yet determined. The indications also are that the most economical preparatory treatment of this water is for part of the year by sedimentation, part of the year by both sedimentation and preliminary filtration, and occasionally by the direct use of the raw water. It will be seen that where preliminary treatment is necessary, as it generally is, the subject of filtration becomes much more complex, especially as to the economics of engineering design. In the present state of knowledge experiment alone will show the best system for any particular case. As such experiments take time, it would be the part of wisdom for every municipality drawing its supply from streams or lakes to inaugurate small scale experiments to determine the best way of purifying its water supply, even if such purification on a large scale is not deemed to be desirable in the immediate future.

Public Water Filtration in Massachusetts.—The next paper was by Dr. FREDERICK HARRINGTON, secretary of the Massachusetts State Board of Health. He said that within the Commonwealth there were but five communities which filtered their water, and but one of these was a place of any considerable size. The public water supplies of the State were, in general, very effectively guarded against pollution at their sources, and hence, with few exceptions, were not in need of purification before distribution. Of the five supplies which were filtered, but one, that of Lawrence, was so treated because of danger in the use of untreated water. Having briefly described the methods employed in these five instances, he said the results of the change in the character of the water on the health of the city of Lawrence had been most striking. Prior to the installation and use of the filter, the typhoid death rates per 10,000 population had been as follows: 1871, 13.44; 1872, 11.94; 1873, 10.52. The filter was completed in September, 1873, and was immediately placed in service. The typhoid death rates per 10,000 population had been as follows: 1874, 11.94; 1875, 10.52. The filter was completed in September, 1873, and was immediately placed in service. The typhoid death rates per 10,000 population had been as follows: 1874, 11.94; 1875, 10.52.

The Problem of the Public Water Supply of New York City.—In connection with this paper, Dr. E. J. SMITH, Dean of the Faculty of Medicine, Yale University, read this paper. The injurious effect of sewage, as generally known, was so well recognized, he said, that he would ask permission to range somewhat beyond the prescribed limits, and to assign to the term sewage a somewhat wider significance than usual, defining it as the wastes from man's life, both personal and commercial. When the human apparatus was impaired in action or overtaxed by the excess of waste material to be disposed of, we saw manifestations which in one case we called uræmia, and by other names in other cases, but might recognize in all cases as the troubles of a community poisoned by its own metabolic wastes. The noxious materials were mostly discharged into the environs. Man had devised secret hiding places for the liquid and solid discharges, but the volatile and gaseous parts passed into the atmosphere. Was it not possible that medical opinion had swung too far in the application of the new found knowledge concerning the rôle played by bacteria as causative agents of disease when it so largely denied the deleterious effect of sewage accumulations other than those due to germs? In other words, was there not a "strict nuisance" which was a real and sanitary evil? The question was a frequent one in our courts of law, and in general it was uncertainly answered by medical witnesses. The only adequate explanation of the advantages derived from the fresh air treatment now so much in vogue was that such treatment was based on our desire to eliminate the deleterious action on the patient of the really small amount of excrementitious matter found in the air of a modern dwelling.

Dr. SMITH said his object was merely to enter a plea for clean living, based on a more general and fuller recognition of the detrimental influence of man's dejects, even when not specifically infected, and also of the products of their decomposition. While he would urge this side of the question, he would not neglect the more easily demonstrated dangers due to infected sewage. A discussion of the sewage dangers to the public health from such diseases as typhoid fever and cholera was largely a discussion of the means by which the infectious organism might be transmitted from sewage to the food of man. Air transmission was regarded properly as of less importance than formerly. German to air transmission was that through the air by means of flies, an agency the general recognition of which was recent. He would venture to predict that when this method of transmission had received more careful consideration, the fly would rival the historic well as a means of disseminating typhoid. The great epidemics of typhoid and cholera, as was well known, had been due to water transmission of infectious organisms. The danger from infection through the medium of ice formed from contaminated waters seemed, however, to have been overestimated. The modifying conditions were so potent that, although it was frequently cut from sources which would not be tolerated as sources of drinking water, there were hardly any authentic cases of infection through the use of ice. The

of the urgent need in the near future of a much larger supply than could be furnished by the Croton system. He presented a map of the proposed aqueduct from the Catskill Mountains, with its reservoirs and its filtering plant near White Plains, and briefly mentioned the contemplated plans for the new supply and the protests which had been made against carrying them out. The objections to using the Hudson River as a supply were that all the water would have to be pumped, and that if 800,000,000 gallons a day were taken from the river, there would come a time, in dry seasons, when salt water would be backed up and when shipping would be interfered with also. The dilute sewage in the water would of course necessitate thorough filtration.

Sewage in Its Relation to Health.—Dr. HERBERT E. SMITH, Dean of the Faculty of Medicine, Yale University, read this paper. The injurious effect of sewage, as generally known, was so well recognized, he said, that he would ask permission to range somewhat beyond the prescribed limits, and to assign to the term sewage a somewhat wider significance than usual, defining it as the wastes from man's life, both personal and commercial. When the human apparatus was impaired in action or overtaxed by the excess of waste material to be disposed of, we saw manifestations which in one case we called uræmia, and by other names in other cases, but might recognize in all cases as the troubles of a community poisoned by its own metabolic wastes. The noxious materials were mostly discharged into the environs. Man had devised secret hiding places for the liquid and solid discharges, but the volatile and gaseous parts passed into the atmosphere. Was it not possible that medical opinion had swung too far in the application of the new found knowledge concerning the rôle played by bacteria as causative agents of disease when it so largely denied the deleterious effect of sewage accumulations other than those due to germs? In other words, was there not a "strict nuisance" which was a real and sanitary evil? The question was a frequent one in our courts of law, and in general it was uncertainly answered by medical witnesses. The only adequate explanation of the advantages derived from the fresh air treatment now so much in vogue was that such treatment was based on our desire to eliminate the deleterious action on the patient of the really small amount of excrementitious matter found in the air of a modern dwelling.

Dr. SMITH said his object was merely to enter a plea for clean living, based on a more general and fuller recognition of the detrimental influence of man's dejects, even when not specifically infected, and also of the products of their decomposition. While he would urge this side of the question, he would not neglect the more easily demonstrated dangers due to infected sewage. A discussion of the sewage dangers to the public health from such diseases as typhoid fever and cholera was largely a discussion of the means by which the infectious organism might be transmitted from sewage to the food of man. Air transmission was regarded properly as of less importance than formerly. German to air transmission was that through the air by means of flies, an agency the general recognition of which was recent. He would venture to predict that when this method of transmission had received more careful consideration, the fly would rival the historic well as a means of disseminating typhoid. The great epidemics of typhoid and cholera, as was well known, had been due to water transmission of infectious organisms. The danger from infection through the medium of ice formed from contaminated waters seemed, however, to have been overestimated. The modifying conditions were so potent that, although it was frequently cut from sources which would not be tolerated as sources of drinking water, there were hardly any authentic cases of infection through the use of ice. The

greatest source of danger from ice appeared to be in connection with milk, and it was possible that organisms enfeebled by long contact with ice might regain their virulence on being introduced into that fluid. Transmission by the agency of milk was connected closely with contaminated water through easily understood relations. There were some cases where milk infection had been traced to the agency of flies, and it was likely that this was not uncommon. Of other means of transmission, green vegetables were a possibility, and this should be considered where it was proposed to use sewage for irrigation and the fertilization of truck farms. The remaining means most in the public mind was that through the agency of shell fish. This was a real danger, as indicated by a number of demonstrated epidemics and by numerous probable isolated cases, as well as the known conditions of oyster culture. Summing up, Dr. Smith said there were dangers to health from too close an association with our waste products after elimination from the body as well as before, which demanded constant attention to the purity of the air we breathed and the cleanliness of our surroundings. There were also well recognized changes through the transmission of infectious materials from sewage, and these demanded not only the removal of sewage from our immediate environment, but its ultimate purification.

The Ultimate Disposal of Sewage.—Dr. GEORGE A. SOPER spoke on this subject. In the State of New York, he said, all sewage systems must be approved by the Department of Health. Theoretically a fairly good protection was thus afforded. Practically, however, many difficulties were met with in enforcing legal requirements. The composition of sewage varied greatly. The total amount of solid matters ranges from 150 to 400 grammes to each person daily. About one half was organic matter, and about one third was solids suspended in water. The methods of disposal might be considered to be chiefly those of dilution. Emptying sewage into adjacent water courses was satisfactory, provided there was enough water to dilute it until it became purified. Dilution in salt water, however, was not so successfully accomplished, as in that case the digesting process (as regarded bacteria) was more difficult. Sewage farms were among the oldest methods of disposal, and some of those used for the sewage of Paris dated back thirty-five years. This plan was an extravagant one in that it required a very large amount of land. In some parts of America, and notably in Massachusetts, intermittent sand filtration had proved a good method. Another method was that of contact beds of carefully prepared stone or gravel, through which the sewage was allowed to flow upward. By this a high degree of purification might be secured. Still another was that of percolation or sprinkling. The degree of purification attained in these two processes was such that not less than ninety per cent. of the bacteria and most of the suspended salts were removed. The sprinkling method was three or four times as rapid as that by contact, but in this the sewage required preliminary treatment for the removal of gross matters, such as grit, rags, etc. To accomplish this, sedimentation and what were called septic tanks were employed, and under favorable circumstances one third of the bacteria and other suspended matter was thus removed. One of the most common methods of sewage disposal was by means of chemical precipitation. It was not a final process, but was capable of removing at least sixty to eighty per cent. of bacteria and other suspended matter.

The Commercial Value of Clean Water.—Mr. GEORGE C. WHIPPLE read a paper on this subject. While we had heard much of late about the cost of filtration, he said, we had heard comparatively little about the financial value of filtered water to the consumers or of the

added value which filtration gave to a water supply. We had heard estimates given of the value of the persons saved from death by typhoid fever, but never had the subject of the financial value of pure water from the standpoint of the consumer received adequate treatment; never had the worth of clean water, irrespective of its sanitary quality, been carefully studied; never had the householder who had complained of the hardness of the water supplied to him realized that this hardness was an expense as well as an inconvenience. A critical study of available data for a number of American cities had shown that for every death from typhoid fever the vital assets of the community were reduced in value by at least \$10,000, and that for every unit death rate per 100,000 chargeable to water borne typhoid fever was fair to deduct a depreciation of \$2.75 per million gallons from the value of the public supply. This was equivalent to ten cents per capita annually for each unit death rate from typhoid fever per 100,000. Thus, in Albany filtration had reduced the annual typhoid death rate from 104 to 26 per 100,000, thereby rendering each person of the community potentially richer by an income of \$7.80 a year. Or, to express it in another way, the filtration of the water supply gave each head of a family of average age a potential life insurance of \$2,300.

From long continued observation of the objections which consumers had raised against the most conspicuous qualities of water supplied to them, it had been found possible to obtain mathematical expressions to show the effect of turbidity, color, and odor on the percentage of objecting consumers, and from these to calculate the depreciation chargeable against a dirty or ill smelling water as compared with one of standard purity. By way of illustration, it might be stated that the depreciation of value of such a water as the Croton was in summer at least \$11.00 per million gallons, or \$1,500,000 a year for the entire supply. Now, the Croton water could all be filtered for an annual sum less than this; so that even from the standpoint of supplying the city with a water which was clean and sweet, and ignoring all sanitary considerations, the filtration of the Croton water would be a wise investment of the municipal funds. In Flatbush, where the water was hard, the cost of needed soap reduced the value of the water by about \$6.00 per million gallons from what it would be if the hardness was no greater than that of Croton water. Having given the estimated figures relative to an improved water supply in Philadelphia, Watertown, N. Y., and other places, going to show that clean water had a commercial value, the author expressed his confident belief that many of us would live to see the day when filtration would be not only demanded by the public, but our health laws would require that every surface water used for domestic supply should be submitted to some form of artificial purification.

Meeting of March 12, 1906.

The President, Dr. T. E. SATTERTHWAITE, in the chair.

THE PRESENT STATUS OF RADIOLOGY IN DIAGNOSIS AND TREATMENT.

X Ray Therapy.—This paper was by Dr. A. D. ROCKWELL. He said that in estimating the present status of the x ray in medicine he would take his stand neither among those enthusiasts who consciously or unconsciously were ever overestimating its value, nor among those ultraconservatives who, without practical experience, were quite as ready to go to the other extreme. There were always three classes to be found in the development of any new therapy: 1. Those who were quite honest, but whose training and abilities, or whose credulity and deficiency in a healthy skepticism, rendered them incapable of eliminating sources of error, who believe what was easy and for personal inter-

not to believe, and who could not be treated either so severely or so gently as the truth warranted with safety. These men were capable of sitting truth from error, but were not capable of seeing the truth. The whole combination rendered them susceptible to the influence of those who were not capable of seeing the truth by a so-called brilliant result or two, but with complete accuracy were able to determine the value and true value of their own experiments. The true remedy is found in the following statement of a physician belonging to the latter class who has examined and treated the cases at Millmont, Mass.: "That while the x ray exerted a powerful influence upon cases of all varieties, yet it was comparatively in the same superficial forms of malignancy, and could not be used in the deeper and more serious forms of inoperable cancer, or in a malignant tumor, an operation, as a possible though not yet proved means of arresting recurrence (U. S. Annals of Surgery, August, 1905). Dr. Rockwell cited numerous cases of his own which were of statistical value for purposes of the value of treatment. The results of these are as follows: Melanotic sarcoma, 1 case; 24 exposures, no benefit. Epithelioma, 2 cases; 24 and 45 exposures, recovery; recovery in both. Epithelioma, 1 case; 24 exposures, no benefit. Carcinoma of the mouth, 1 case; 24 exposures, no benefit. Carcinoma of the tongue, 1 case; 10 exposures, no benefit. Carcinoma of the neck, 2 cases; 24 and 25 exposures, respectively, no benefit; on the contrary, they were associated with increased activity of growth. Abscess of the breast, 1 case; 24 exposures, no benefit. Lupus erythematosus, 1 case; 45 exposures, no benefit. Tuberculosis glands, 1 case; decided benefit, but treatment discontinued because of sudden and severe dermatitis. Carcinoma of the breast, 1 case; 24 postoperative exposures, evidence of return after three years. Rheumatoid arthritis, 1 case; 24 exposures, no benefit. Tuberculosis, 1 case; 36 exposures, with recovery. In estimating a remedy it was that we know its weakness as well as its strength, and therefore in preparing this paper his object was, while taking due notice of both successes and failures, to emphasize the failures more than was generally done, on the principle that as much could be learned from the last as from the first. Every physician who has treated a case in one way or another, and who has seen a success, since it reduced the labor of future experimenters. That the failures outnumbered the successes simply because we had in the majority of cases not right means to the end, and emphasized the failures, while the x ray was not only valuable in many superficial diseases, both benign and malignant, it possessed but little if any permanent influence in the deeper seated and graver forms of malignant disease.

The X Ray in Medicine.—Dr. J. H. Musser, of Philadelphia, made an address on this subject. As to the treatment of leucemia, he said it had been remarked by other and other observers that this, on the whole, was a hopeless disease of most cases. He stated, however, that the reason for this was that the treatment was directed to the cases in which secondary changes had occurred after the use of the x ray, rather than to the primary disease. The progress of such changes, in the case of the one, treated by the x ray, there had been no return of the appearance of the leucocytes and the patient had been restored to a normal condition. The leucocytes had been reduced to normal, and the patient had been restored to a normal condition. At the same time, he thought it would be necessary to keep the patient under observation from time to time in order to prevent a recurrence, such as had taken place

in another case which he had treated. He then proceeded to speak of the x ray in diagnosis, and said he considered it of special value in the abdomen, where we needed all the light we could get before resorting to operative procedures. He had seen a case in which the physical signs showed the presence of an aneurysm, but when the x ray was employed it was discovered that there was a second aneurysm (a fact which no physical exploration could have brought out), which was situated just beyond the one that had been known.

In connection with Dr. Musser's remarks, Dr. Newcomet and Dr. H. K. Pancoast, of Philadelphia, showed by transmitted light a large number of beautiful x ray pictures on glass, presenting a variety of interesting conditions both in the chest and in the abdomen.

The Value of the X Ray in Cancer.—Dr. W. B. Coley read this paper. Of the 167 cases of malignant tumor reported in his paper, read before the New York Surgical Society in May, 1905, and published in the *Annals of Surgery* in the following August, 68 were sarcoma, 36 carcinoma of the breast, 44 epithelioma of the head, face, and neck (including the tongue), and 14 deep seated abdominal tumors, most of them probably carcinoma. In discussing the results of the x ray treatment in cancer, he said a careful distinction should always be made between superficial epitheliomatous growths and deep seated tumors. An analysis of the successful cases thus far published would show that the great majority belonged to the first mentioned group, in which only the superficial layers of the skin were involved. It had been said that the x ray had certain advantages over other methods of treatment, particularly excision, in that it left a smaller scar. His own experience had been that where the deeper layers of the skin were involved the x ray treatment was very unsatisfactory, being far inferior to excision. Dr. Coley summed up his conclusions as to the value of the x rays as follows: 1. The x rays have an undoubted and oftentimes remarkable influence upon cutaneous carcinoma and superficial epithelioma, resulting frequently in the entire disappearance of the lesion and sometimes in a permanent cure. There is, however, a strong tendency to recurrence, and it is still an open question whether it is not better to excise even superficial growths when possible, reserving the use of the x rays for cases beyond operation. 2. In deep seated cancer, both carcinoma and sarcoma, the influence of the x rays is in most cases slight and temporary. The few cases in which there has been an apparent disappearance of the tumor have, in almost every instance, been quickly followed by either local or metastatic recurrence. For this reason the x rays should never be used in "operable" deep seated cancer. 3. The temporary improvement observed in a certain number of cases, as shown by decrease in size or cessation of growth, together with considerable diminution in pain, justify the use of the x rays in cases of "inoperable" deep seated cancer as a palliative measure. 4. The use of the x rays as a preoperative measure in "operable" cancer is strongly to be condemned (a) because the disease may, and often does, extend locally or, more especially, by metastases, during the period of preoperative treatment; (b) because, aside from such real dangers, there are not any advantages to be gained by such a course of treatment. If the tumor does not decrease in size, there is certainly nothing gained; if it does decrease in size, and the neighboring glands become smaller, there is the danger that the operation will be less radical than if done at first, and that infective tissues may be left behind as a source of future recurrence. 5. The value of the x rays as a prophylactic measure after operation for primary malignant tumors, so strongly advised by most x ray workers, at present rests entirely upon theoretical grounds. There

are absolutely no data to prove such value, while there are many observations that would tend to disprove the same or reduce it to a minimum. It will require many more observations and a much longer period of time before a positive opinion can be expressed. In advising such treatment after operation we should tell the patient that it is entirely experimental, and, furthermore, he should not be kept ignorant of the fact that in a number of cases prolonged exposure to the x rays has caused cancer in a previously healthy individual.

The X Ray in Surgical Diagnosis.—Dr. CARL BECK spoke on this subject. In the matter of fractures, he said the work of the surgeon had been revolutionized by this discovery. When we knew the exact diagnosis in any case, the treatment suggested itself. If we found that there was no displacement of fragments, there was, of course, no need of a replacement; but it was necessary to know positively that there was no displacement, and this the x ray enabled us to do. As to the kind of splint to be used, he personally preferred the plaster of Paris dressing. Through this the exact condition of affairs could be seen by means of the x ray. If an examination with the latter showed that the fracture was not reduced, the dressing could be removed, the reduction made, and the plaster reapplied. The x ray also afforded a protection to the surgeon in cases where his skill was called in question, for an x ray picture taken when he first saw the patient would furnish positive proof of the severity of the injury and the difficulties attending its successful treatment. By means of the x ray we could tell whether we were able to reduce displacements, and when it would be necessary to give ether in order to accomplish this. Dr. Beck then went on to speak of the usefulness of this agency in osteomyelitis, exostosis, bone tuberculosis, and other conditions. His remarks were illustrated by a large number of skiagraphs.

The Value of Radium in Surgery.—Dr. ROBERT ABBE spoke on this subject. He said it was extremely difficult to get radium of sufficient strength, though he himself had been fortunate enough to secure some. Radium bromide was regarded as having effects similar to those of the x ray. So far as he had been able to make out, it appeared to have all the qualities of this and, in addition, some peculiar to itself. In the case of morbid growths the most satisfactory results had been obtained in many instances in which the x ray had failed. Dr. Abbe exhibited a number of plaster casts of cases taken before, during, and after the treatment. Any simple hypertrophic growth, like warts, could be absolutely cured by it. In a case of osteosarcoma of the lower maxillary fifteen radiumizations were employed, and the patient was now perfectly well, there being merely a linear depression at the seat of the trouble. As a result of the treatment the growth became more and more gritty from the deposit of osseous material, until at length the whole was replaced with solid bone. In a case of sarcoma of the eyelid the radium tube was left in contact with the growth for an hour four times a week, and then the case was left alone. In eight weeks a complete cure was effected, and a year had now elapsed without any sign of recurrence. As to how the radium acted in these cases, this was a question which would have to be settled by the pathologists. Personally, he could not explain it, but it seemed possible that in the morbid growths there might remain what some of the Germans had called "slumbering cells," and that from these, under the action of the radium, the normal tissue of the part became reconstructed. Rodent ulcers of the skin, from epithelioma, were completely cured by this treatment. In a case of epithelioma of the face the radium tube was left in the ulcer for an hour a day for seven days. Inflammatory action was thus set up, and at the end of five weeks the patient was perfectly cured, healthy tissue

having taken the place of the morbid growth. In one case of rodent ulcer (lupus) of twenty years' standing, a cure was effected by seven applications, and in another, of fourteen years' standing, by eight applications. An exophthalmic goitre in a young woman was successfully treated with radium. She remained free from trouble for a year, when there was a slight recurrence, but this promptly yielded to the external application of the radium. In a case of cancer of the tongue the most marked improvement had occurred. At the present time there remained merely a little furrow, and he hoped a little later to be able to report a cure. From the good results which he had thus far obtained in a variety of conditions he could not but believe that in radium an important addition had been made to our armamentarium.

Dr. H. G. PIFFARD said that in the matter of diagnosis there could be no doubt that the x ray was a boon to the world. As regarded treatment, the case was different. He had seen so much harm resulting from it, and so much better results accomplished by other methods, that he believed its therapeutic use, as a rule, unadvisable. A good deal of its bad effect, however, was due to the fact that it was so often employed by men entirely lacking in a competent knowledge of radiology. The only two affections of the skin in which he had found the x ray of special value were mycosis and ringworm of the scalp.

Dr. E. B. BRONSON said that much had been said and written about the results achieved in the graver and more malignant diseases, but comparatively little about the usefulness of x rays in the common, every day affections. Such simple affections as acne, rosacea, rebellious callosities of the palms and soles, psoriasis, inveterate squamous or psoriatic forms of eczema, and many other chronic cutaneous troubles of a specific nature, when they did not readily yield to the common methods of treatment, might often be made to succumb to Röntgen radiation with a facility that was surprising; nor need there be any ill after effects worth considering. After discussing the action of the x ray on the tissues, he said that in its use the problem was to avail one's self of the involutional tendency shown by it just to the extent of counteracting the disease process without overstepping the margin of safety. This, he believed, was feasible, so that the treatment could be conducted without doing appreciable damage. As to the use of this method in hirsuties, which might be classed with epithelial anomalies of the skin, notwithstanding the fact that so many discouraged it, his own experience had not been unfavorable.

Dr. C. W. ALLEN agreed with Dr. Bronson as to the great value of the x ray in dermatology, and said that he could not but differ with surgeons like Dr. Coley, whose motto appeared to be "Excise everything."

Dr. J. E. STUBBERT spoke of the diagnostic value of the x ray in diseases of the chest, and said there were a large number of cases in which incipient tuberculosis might be detected by this method before there were any physical signs whatever.

Dr. SINCLAIR TOUSEY called attention to two points in the application of the x ray. The first was the fact that recent improvements had enabled us to take pictures through the entire thickness of the head of such a degree of clearness of detail as to be of positive assistance in the diagnosis of existing conditions in the antrum and other pneumatic sinuses, such as the ethmoid cells, the frontal sinus, and the cells in the body of the sphenoid bone. The second point was the matter of dose. The importance of a knowledge of the amount of x ray which it took to produce certain physiological effects could not be overestimated. It was necessary to know this to enable one to apply the x ray safely for the examination of difficult cases, and

and the value of primary and secondary results in treatment.

The text is clear and it has been illustrated by radiographs that show some of the results, and therefore that practical use of this book is to be made in radiography.

Book Notices

The Journal of Pathology and Bacteriology for the Year 1906. By J. H. P. ROBERTS, M. D., F. R. C. P., D. D., Professor of the University of London, and of the College of Physicians (University of London), etc. With Forty-five Half Tone Plates. Third Edition, Revised and Enlarged. New York: D. Appleton & Co., 1906.

The first and second editions of this excellent work were reviewed in these pages as they were published. The present edition does not show radical differences from the last but the authors being wholly new. Moreover, it is revised, however, in almost every chapter. Changes of opinion and advances of knowledge are recorded, and the book is thoroughly brought down to date. The chapters on the blood, the thymus gland, and mental defects show numerous changes and present many new drawings and cuts. The sections on bacterial diseases have been thoroughly revised and are among the noteworthy features of the book. The chapter on diphtheria has been rewritten in part and forms one of the best monographs extant on that disease. An interesting feature is the increased assurance with which the author speaks of the antitoxine treatment in the successive editions. Moreover, the doses advised increase in the second and third editions. The section in which the most radical changes have been made is, perhaps, that devoted to meningitis. Recent epidemics of cerebrospinal meningitis in many localities have added greatly to professional interest in that disease. It is not an exaggeration to say that the chapter on that subject is the most satisfactory one now to be found in any place.

From the appearance of the first edition, Dr. Holt's book has been notable as being highly scientific, but at the same time eminently practical—a combination of qualities too often lacking in medical literature. It is preeminently a book for the general practitioner. The author is firm in his beliefs, but is not a hobby rider; comparisons are said to be odious, but it is impossible to refrain from expressing the opinion that for the practicing physician the third edition is the most satisfactory work on pædiatrics in the English language.

The Surgical Treatment of Chronic Suppuration of the Middle Ear and Mastoid. By SAMUEL COHEN, M. D., Otolaryngologist and Laryngologist to Gouverneur Hospital; Otolaryngologist and Laryngologist to Mount Sinai Hospital Dispensary, etc. Illustrated by Forty-six Half Tone Plates containing Sixty-four Figures and Twenty-seven Key Plates, all Engraved from Original Drawings. Prepared from Special Dissections from the Laboratory of the Author. Philadelphia: F. D. Dickerson, Son and Company, 1906. Pp. 300.

Chronic suppurative otitis has almost broadly been overcome through the removal of the middle ear and the mastoid operations, simple and radical. The presentation of a systematic pathology of the anatomical landmarks is thorough, and shows much study as well as wide acquaintance with the recent literature and the history of otology. The opening chapters deal with the treatment of the middle ear, the middle ear and the mastoid, and the middle ear and the mastoid. The second section is

devoted to the mastoid operations and the plastic methods. The work is a very valuable addition to the practitioner's available literature of the graver diseases of the organ of hearing, and is sure to meet with wide appreciation. The volume is very handsomely printed and beautifully illustrated, and it closes with an unusually well constructed index.

Chemistry of the Proteids. By GUSTAV MANN, M. D. (Edin.), B. Sc. (Oxon.), University Demonstrator of Physiology, Oxford. Based on Professor Otto Cohnheim's *Chemie der Eiweisskörper*. London: MacMillan & Co., Limited, 1906. Pp. xviii-606.

A new work coming from the author of that fascinating and suggestive work *Physiological Methods in Human Histology* claims more than the usual attention from the reviewer. The present volume, based on Cohnheim's work on the chemistry of the proteids, represents the best extant discussion on the intricate problems of the chemistry of the life processes. If any work of a technical character can afford an answer to the question, What is life? Dr. Mann's present contribution can almost be said to have done it, even if he has not definitely set the query at rest.

In his treatment of the subject the author has followed a definite chemical classification, the substances under discussion being arranged in such a manner as to lead from the lowest member of a series to higher ones, from the simpler compounds to their more complex oxidized forms, and from the open to the closed chain formations. This he has done systematically and exhaustively.

The volume is not for the flaneur. Only hard, consecutive thinking will carry the reader through the wealth of bibliographical reference and the discussion of the theories of formation of many of the substances under review, but to one acquainted with the general principles of proteid chemistry the work is one of great importance. It is an index of modern progress in this active field of research, and is indispensable to the laboratory worker, the teacher, and the modern clinician who retains any hold on his chemical training.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ending March 30, 1906:

Smallpox—United States.		Cases		Deaths	
Place	Date				
California—Los Angeles	Mar. 3-17	3			
California—San Francisco	Mar. 10-17	7		1	
Colorado—Idaho Springs	Feb. 1-28	1			
Colorado—South Golden	Feb. 1-28	1			
Florida—Jacksonville	Mar. 17-24	4			
Illinois—Chicago	Mar. 17-24	1			
Kansas—General	Jan. 1-31	125		1	
Kentucky—Lexington	Mar. 17-24	2			
Louisiana—New Orleans	Mar. 17-24	7			
Maryland—Baltimore	Mar. 17-24	3			
Michigan—Ann Arbor	Mar. 17-24	1			
Mississippi—Baton Rouge	Mar. 17-24	1			
Mississippi—Gulfport	Mar. 19-26	1			
Mississippi—Natchez	Mar. 10-17	1			
Missouri—St. Louis	Mar. 17-24	7			
New York—New York	Mar. 17-24	1			
Oregon—Astoria	Mar. 10-23	5			
Pennsylvania—Pittsburgh	Mar. 17-24	1			
Tennessee—Memphis	Mar. 17-24	14			
Utah—General	Feb. 1-28	232			
Utah—Salt Lake City	Mar. 3-17	39			
Virginia—Petersburg	Mar. 1-26	21			
Washington—Spokane	Mar. 10-17	1			
West Virginia—Wheeling	Mar. 17-24	5			
Wisconsin—Appleton	Mar. 17-24	2			
Wisconsin—Bristol	Mar. 10-24	2			

Smallpox—Insular

Hawaii—Honolulu	Mar. 12	1 on S. S.
Philippine Islands—Manila	Feb. 2-10	Coptic. 2

<i>Smallpox—Foreign.</i>			
Africa—Cape Town	Feb. 3-17	7	
Brazil—Pernambuco	Feb. 1-15		21
Canada—Toronto	Feb. 24-Mar. 3	1	
China—Hongkong	Jan. 26-Feb. 3	9	7
China—Shanghai	Feb. 10-17	2	3
France—Paris	Feb. 24-Mar. 10	21	
Gibraltar	Feb. 25-Mar. 11	11	4
Great Britain—Glasgow	Mar. 9-16		2
Great Britain—Liverpool	Mar. 3-10	3	
Great Britain—London	Mar. 3-10	1	
Greece—Athens	Feb. 20-27		3
India—Calcutta	Feb. 10-17		118
India—Bombay	Feb. 20-27		7
India—Karachi	Feb. 18-25	52	13
India—Rangoon	Feb. 10-17		103
India—Madras	Feb. 17-23		20
Spain—Barcelona	Mar. 1-10		5
<i>Yellow Fever.</i>			
Mexico—Merida	Mar. 4-10	3	
Nicaragua—Managua	Feb. 10-24		2
<i>Cholera—Insular.</i>			
Philippine Islands—Manila	Jan. 26-Feb. 10	7	8
Philippine Islands—Provinces	Feb. 3-10	195	165
<i>Cholera—Foreign.</i>			
India—Bombay	Feb. 20-27		1
India—Calcutta	Feb. 10-17		79
India—Rangoon	Feb. 10-17		5
<i>Plague—Insular.</i>			
Philippine Islands—Manila	Jan. 27-Feb. 10	2	2
<i>Plague—Foreign.</i>			
Brazil—Bahia	Feb. 22	Present.	
China—Hongkong	Feb. 3-10	6	6
India—Bombay	Feb. 20-27		229
India—Calcutta	Feb. 10-17		32
India—Karachi	Feb. 17-25	12	11
India—Madras	Feb. 17-23		1
India—Rangoon	Feb. 10-17		33
Paraguay—Asuncion	Mar. 28	Present.	
Peru—Callao	Feb. 13-26	1	
Peru—Lambayeque	Feb. 13-26	3	1
Peru—Lima	Feb. 13-26	1	
Peru—Mollendo	Feb. 13-26	3	2
Peru—Paita	Feb. 13-26	5	2
Peru—Trujillo	Feb. 13-26	31	11

Public Health and Marine Hospital Service:

List of Changes of Station and Duties of Commissioned and Non-Commissioned Officers of the Public Health and Marine Hospital Service for the seven days ending March 28, 1906:

- AUSTIN, H. W., Surgeon. Detailed as delegate on part of the United States to represent the Service at the meeting of the Fifteenth International Congress of Medicine to be held at Lisbon, Portugal, April 19-25, 1906.
- BAILEY, C. A., Acting Assistant Surgeon. Excused without pay for three days, from March 25, 1906.
- CARLTON, C. G., Pharmacist. Granted one day's leave of absence, under Paragraph 210 of the Regulations.
- EBSOLE, R. E., Assistant Surgeon. Relieved from duty at San Francisco and directed to proceed to Manila, P. I., reporting to Passed Assistant Surgeon V. G. Heiser, Chief Quarantine Officer, for duty.
- FRANCIS, EDWARD, Passed Assistant Surgeon. Directed to proceed to New Orleans, La., for special temporary duty, upon completion of which to rejoin his station.
- FRICK, JOHN, Acting Assistant Surgeon. Transferred from Tampico, Mexico, to Vera Cruz, Mexico, for duty in office of American Consul.
- HAMILTON, H. J., Acting Assistant Surgeon. Granted leave of absence for eleven days, from March 5, 1906, on account of sickness.
- STANSFIELD, H. A., Passed Assistant Surgeon. Granted leave of absence for three days under Paragraph 191 of the Regulations, from March 19, 1906.
- WOODS, C. N., Pharmacist. Granted three days' leave of absence, from March 17, 1906, under Paragraph 210 of the Regulations.

Casualty.

Passed Assistant Surgeon T. F. Richardson died in New Orleans, La., March 19, 1906.

Resignations.

Pharmacist Charles W. Stephenson resigned as Pharmacist of the First Class, to take effect April 11, 1906.

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the week ending March 31, 1906:

ASHFORD, B. K., Captain and Assistant Surgeon. Relieved from duty at Henry Barracks, Cayey, Porto Rico, and from further special duty under the Governor of Porto Rico, to take effect April 1, 1906, and will proceed to and take station at Washington Barracks, Washington, D. C.

CHIDESTER, W. C., Captain and Assistant Surgeon. Advanced from the rank of first lieutenant to that of captain, to date from March 24, 1906.

COWPER, H. W., First Lieutenant and Assistant Surgeon. Relieved from duty at Washington Barracks, D. C., and ordered to Plattsburg Barracks, N. Y., for duty.

CROSBY, WILLIAM D., Major and Surgeon. At expiration of present leave of absence will proceed to Vancouver Barracks, Washington, for duty.

HANNER, JOHN W., First Lieutenant and Assistant Surgeon. At expiration of present leave of absence will proceed to West Point, N. Y., for duty.

HARVEY, PHILIP F., Colonel and Assistant Surgeon General. Relieved from duty as Chief Surgeon, Department of the Lakes, May 1, 1906, and order a to Governor's Island, N. Y., for duty as Chief Surgeon, Department of the East, relieving Colonel Valery Havard, Assistant Surgeon General.

HAVARD, VALERY, Colonel and Assistant Surgeon General. Relieved from duty as Chief Surgeon, Department of the East, and will repair to Washington, D. C., and report in person to the Surgeon General of the Army, for duty in his office, and as president of the faculty of the Army Medical School and president of the Army Medical Board.

HEIZMANN, CHARLES L., Colonel and Assistant Surgeon General. Relieved from duty in the Surgeon General's Office, Washington, D. C., on April 20, 1906, and ordered to San Francisco, Cal., for duty as Chief Surgeon, Department of California, and superintendent of the Army Transport Service, relieving Lieutenant Colonel George H. Torney, Deputy Surgeon General.

HUGGINS, JOHN B., First Lieutenant and Assistant Surgeon. Relieved from duty in the Army Transport Service, and will proceed to Manila, P. I., for duty on transport sailing from San Francisco, Cal., on March 26, 1906.

LAGARDE, LOUIS A., Lieutenant Colonel and Deputy Surgeon General. Promoted to the rank of lieutenant colonel, to date from March 17, 1906.

MARROW, CHARLES E., Captain and Assistant Surgeon. Relieved from duty at Fort Sheridan, Ill., and ordered to Fort Monroe, Va., for duty.

MORSE, CHARLES F., First Lieutenant and Assistant Surgeon. At expiration of present leave of absence will proceed to Fort Howard, Md., for duty.

MOSELEY, E. B., Colonel and Assistant Surgeon General. Promoted to rank of colonel, to date from March 17, 1906.

STRAUB, PAUL F., Major and Surgeon. Promoted to rank of major, from March 17, 1906.

TURRILL, HENRY S., Colonel and Assistant Surgeon General. Retired from active service on March 29, 1906, with the rank of brigadier general.

WHITMORE, First Lieutenant and Assistant Surgeon. Assigned to duty at Fort Warren, Mass.; order suspended until return of Major Charles Richard, surgeon, to Fort Jay, N. Y.

WILSON, COMPTON, First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Howard, Md., and ordered to Fort Sheridan, Ill., for duty.

WOODBURY, FRANK T., Captain and Assistant Surgeon. Leave of absence extended twenty days.

Navy Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the week ending March 31, 1906:

ABEKEN, F. G., Assistant Surgeon. Detached from the Naval Station, Tutuila, Samoa, and ordered home to await orders.

ASSERSON, F. A., Passed Assistant Surgeon. Detached from the Navy Yard, New York, N. Y., and ordered to the Naval Medical School, Washington, D. C., for instruction.

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Original Communications.

INTRAPERITONEAL SHORTENING OF THE ROUND LIGAMENTS.

In Backward Displacement of the Uterus.

By J. M. BALDY, M. D.,

PHILADELPHIA.

I may consider myself fortunate this evening in being limited to the discussion of the intraperitoneal shortening of the round ligaments for backward displacement of the uterus, because I have long since reached the conclusion that other surgical procedures are inadequate and their further discussion a waste of time.

Time has only served to emphasize the very narrow field of the Alexander operation and all similar procedures. When it is pointed out that surgical operation for backward displacements is only to be performed in the vast majority of instances on patients suffering from complications, and it is admitted by the advocates of this operation that it is only applicable to uncomplicated cases, its field will be sure to be very limited. When in addition to this consideration is given the fact that so many of the complications are of such a nature as to render the certainty of a prior diagnosis doubtful, a consideration of the operation at all is useless, especially as there are so many other procedures which accomplish without exception everything which the Alexander operation does, and more. The modification of the Alexander operation which is best and is a vast improvement on the parent procedure is the Goldspohn method. The fact, however, that this procedure involves two incisions each at a point at which greater damage may be done than at the site of a single median incision, is quite sufficient to dispose of it, unless there is nothing else to take its place.

Ventrofixation and ventrosuspension are far superior to the Alexander procedure, as they recognize the unassailable position that the operation is performed in view of the complications, allow of a correct diagnosis, and permit an intelligent treatment of the real cause of the symptoms, the incidental fixation of the uterus being intended to prevent a repetition of new complications or a correction of those already existing. So far the operation meets all indications, but, unfortunately, it substitutes a condition which, even when the operation is a mechanical success, practice has proved to be disastrous beyond all warrant in the long series of distocias in future pregnancies, even to the

extreme of having been the cause of Cæsarean section. In addition, the accomplishment of a suspension is uncertain and where accomplished the bands not infrequently are so stretched as to allow the replaced uterus again becoming displaced.

I am not one of those who believe that the round ligament is the natural support of the uterus or that it gives more than a slight assistance in this direction. Nor do I believe that any one element brings about a uterine displacement. The question is a complex one, and the result a combination of causes. The uterosacral and uterovesical ligaments together with the other tissues which are attached to the uterus at the cervix are very potent factors at fault in the production of the displacement.

The broad ligaments and round ligaments which are lacking in their due proportion only are first involved, but if after their departure from the normal from whatever cause the forces of gravity and intraabdominal pressure, both voluntary and involuntary, are not taken into consideration, the true situation is lost. Penrose's theory of suction in the abdominal vacuum in no way appeals to me as a factor. If there was any truth in such a theory, the vacuum being destroyed as soon as the abdominal cavity was opened, the uterus would tend to depression or backward displacement; as a matter of fact, neither of these conditions obtain even in the slightest degree. The plain fact remains that for some cause the tissues responsible for the support of the uterus relax and stretch. Gravity and intraabdominal pressure then, instead of working in the direction of sustaining the normal forward position of the organ, work in the opposite direction and aid the displacement.

A discussion of causes brings one of necessity to the consideration of complications which are various. The displacement itself falls into insignificance, excepting that its existence presupposes a displacement of the ovaries; the ovaries in time become cirrhotic, and this condition eventually is the most potent factor in the production of symptoms for which the patient applies for relief.

Inflammation, adhesions, and other complications form a large group of cases in which a cure of the inflammation, or adhesion, or whatever other complications obtain, will end the case whether or not the uterus be displaced. The mere displacement of the uterus will not continue the symptoms. The one and only consequence of the displacement, and it must be admitted that it is a serious one, is the secondary effect on the prolapsed appendages. Any operation which does not take this factor into con-

position, and which does not so surely correct the position of the uterus by its own weight on the uterus, cannot be considered permanent. Such is the case with Alexander's operation in all its variety, as well as with hysterectomy and hysterotomy operations. This criticism is due first to the necessity of the intraperitoneal round ligament operation. This has just been well considered, in choosing which of these operations is the better and most satisfactory.

The group of cases in which the perhaps better results already are secured at least in a large way, and the method proposed here is then correspondingly good.

The operation which I am in the habit of performing for permanent displacement of the uterus, is that which is here described. In my opinion it is an operation which is well designed to the use of the round ligaments. The round ligaments are separated from their posterior surface by the speculum, which on emerging on the anterior surface are made to grasp the round ligaments, which are then drawn through the posterior wall of the uterus. The round ligaments are brought together, and sutured both together and to the uterus low down on its posterior surface (at about the position of the external os). This operation has three things: (1) The tilting forward of the uterus to a normal anterior position. (2) The tilting up of the whole pelvic floor from its hanging position. (3) The lifting and support of the ovaries and tubes. The three results are of necessity a part of each other, and one is as consequent on the other. The most important of all, the lifting and support of the ovaries, is absolute and sure, and this result is accomplished without the need of the pressure of these delicate organs.

Can this have the result can have no consequence of its completeness and is in no position to cause its merits. This result is not accomplished by any of the intraperitoneal round ligament operations in which I am familiar, and in consequence of this criticism it comes from all. Otherwise, I can see very little difference between any of these classes of operations. They are, any and all of them, far and away superior to the Alexander operation in all its methods. These operations do all that is done by any of the older methods—they correct and they far are better.

There is also a treatment of the complications which in most instances is the treatment of the displacement. Alexander's does not. They allow of treatment through one incision, and that a comparatively safe one. Alexander's does not. They are free of the uncertainties of result that obtain in the Alexander method—complete failure to sustain an invagination (of the band), and none of the dangers of the hysterectomy. They are rational in and they give a full and absolute substitute for the lost support of the uterus and do absolutely no harm. They do not of pregnancy in any woman who could at any time become pregnant. After pregnancy comes the course is as natural as if they had not been performed, and at its termination there are absolutely no unusual dangers to anticipate. They will give a larger percentage of cures than any of the old methods.

You will see how simple.

I have always said that if you have the natural support of the uterus, you do. I maintain that they will

cure the symptoms in every case in which they are performed.

I do not make these claims because I am convinced that the tissues involved in the displacement are so many and various that only a great variety of operations would correct the condition, and even then would leave scar tissues in places which would produce future harm. That what we intend to do by any one operation is to substitute an artificial support, one which is in no way injurious either primarily or secondarily, and which gives the natural tissues a chance to work in the direction in which they were intended to work, and to do good instead of doing harm. I have seen too many cases in whom perfect mechanical results were obtained, and still the symptoms persist, either because the ovaries were hopelessly involved, or a mistake in judgment had been made in operating in a nonsurgical case, often in a neurasthenic.

2219 DE LAUREL STREET.

THE RELATION OF THE VISITING AND HOUSE STAFF TO THE CARE OF HOSPITAL PATIENTS.*

By W. GILMAN THOMPSON, M. D.,

NEW YORK.

The Visiting Staff.—Many of us listened recently to the able Anniversary Discourse of the Academy of Medicine, by Dr. Gerster. One of the suggestions therein urged was that hospitals should employ paid medical officers, thereby commanding more of their time, and promoting economy of administration. This proposition leads to the question whether continuous service on the part of the visiting staff does or does not especially benefit the patient, and it is this phase of the matter only which may be properly considered in the subdivision of topics which has been assigned to me.

Classified upon the service basis, there are at present in this country three distinct groups of public hospitals. First, those to which any reputable physician may send patients, and personally treat them there for any period he may choose. Examples of this system are found in Denver and several other cities. Second, hospitals in which a comparatively small paid permanent visiting staff enjoys an absolute monopoly, a system illustrated in Baltimore and a few other cities. Third, hospitals managed upon an intermediate system, with a large visiting staff and reasonable rotation of service, which is at present the prevailing type.

It has never been clearly demonstrated that the results of treatment in any one of these three groups of hospitals were markedly and continuously better than in the others. It is the men employed, rather than the system, which in any specific case make for success or failure. It might be possible to allot a permanent service to one who soon reached his limitations of development and kept both house staff, nurses, and patients within the confines of his own narrow mindedness. Arbitrary age limitations may be set upon the service, but we have all known men whose work we would applaud long after sixty-five years of age, and those who reached their limit of usefulness at thirty.

* Read before the Medical Society of the County of New York, February 28, 1906.

The day of preeminence in medical *treatment* (not of course in medical scientific *discovery*) belongs to past generations, for, on the one hand, the general average of medical education and training is being elevated year by year, and upon the other, the field of knowledge is becoming far too broad to permit of monopoly. To whom would one look to-day as preeminent in the treatment of pneumonia, of cirrhosis, of endocarditis? It is not a hospital question of Doctor So and So's prescriptions or individual methods with his patients, but rather of nursing and dieting and hygiene, with the skillful use of a few medicinal remedies common for all practitioners.

The question of continuous hospital service—that is, of appointing one or two visitants with assistants to serve the year round (whether paid or not)—is somewhat different as viewed from the surgical or medical standpoint. The surgeon needs to train his house staff and nurses in his individual methods of antisepsis and operation; he handles a large number of implements, in the use of which also his staff must be trained, and cases of laparotomy, of fracture, of amputation, may prove slow in recovery, and should be watched to their conclusion by the operator. To make frequent change in such service is to transfer to one's successor a number of cases of the real nature of which he necessarily can know but little. In a medical service, on the other hand, occasional change of visiting physicians may prove an advantage. There is a decided gain to the interne in coming in close contact with more than one instructor, who widens thereby his experience, and there may be decided gain to the patient in the occasional introduction of new methods, the avoidance of too much routine, or the revision of obscure diagnosis. In the so called active service of one of the largest metropolitan hospitals the average per capita stay of the medical patients is only eleven days, and an occasional change of visiting physician is found to have no practical disadvantages whatever. One might go further and say that it is a distinct gain to the hospital sometimes to appoint a visiting physician whose experience is in part gathered at a sister institution where he also visits, and from which he may introduce from time to time new suggestions both for the benefit of the patients and economy of the institution. Moreover, the best hospital visitant may derive profit from the experience or opinions of those who precede or follow his own service.

But to argue this question solely from the standpoint of the hospital patients in any one institution is to present a narrow field of view. Hospital patients constitute a very small proportion of the total sick in any community. The humanitarian influence of any hospital would be sadly restricted were it possible to confine it to the few thousand patients treated within its walls. It is essentially a great educational factor, educating its nurses, its internes, its special students, and its visiting staff to serve the community at large. In just so far as it can increase the number of all these classes of workers within reasonable limits, and without unfavorable reaction upon its patients, its influence for good will extend. The hospital which places three or four hundred medical patients under the charge of a single man who devotes his entire time to its service (perhaps with one or two assistants), therefore deliberately

restricts its sphere of usefulness without adequate gain to the patients.

It is interesting to note what the effect would be were all the hospitals in New York city established upon such a continuous medical service basis. In the borough of Manhattan alone are twenty-eight hospitals, for the treatment of general diseases, large enough to at present employ more than one physician each. Leaving out of count all assistant or junior members of the visiting staff, and speaking only of the medical service, and not including the surgical staff, these hospitals at present employ 150 visiting physicians. In one or two instances the subdivision of service thus entailed may be excessive, and the rotation too frequent for the benefit of the patients and for the economic interests of the institution, but, on the other hand, it is a grave question whether the broadest public interest would be better served by placing the entire medical general hospital service in a city of the size of New York in the hands of a monopoly of twenty-eight men.

The question of hospital economics belongs to the paid superintendent's office, and should be met by securing greater efficiency, if need be, in that department. Proper cooperation of the visiting staff in maintaining economy is most essential, but the time and energy of the visitant belong to his patients and the development of his science, and should not be frittered away with purely administrative details, with such questions, for example, as whether it is cheaper to sterilize old gauze and use it again, or use green medicine bottles instead of white!

The Internes.—There are two factors of recent development which seriously tend to interfere with that close study and watchful care which the members of the house staff owe to the patients in their charge. One of these is the clinical laboratory, the other the overtrained nurse.

The growth of so called "clinical laboratory" methods is phenomenal. They afford interesting and for the most part valuable aids to diagnosis, and being visible and tangible methods they naturally impress the mind of the beginner in medicine as opening a royal road to diagnosis—diagnosis "while you wait"—in the laboratory! Why give quinine if a single examination fails to reveal the plasmodium malarie, and why give it at all until the patient has had several chills, thus allowing time to discover the plasmodium? Why open the window and let in fresh air to the obviously tuberculous patient because the first examination has failed to demonstrate the presence of the tubercle bacillus? Why begin the treatment of chlorosis or lead poisoning until the exact proportion of polymorphonuclear neutrophils or granular basophiles has been definitely established?

Far be it from the intent of this criticism to disparage the value of laboratory methods—*i. e.*, the use of physical and chemical tests for diagnosis. On the positive side they are often of great interest and practical importance, and may be of unique service (as when the accidental discovery of an eosinophilia in a routine blood count leads to the demonstration of an intestinal parasite). On the negative side, however, they may be actually harmful, if too much weight is given to such evidence, as when repeated failure to obtain a positive Widal reaction is made to outweigh bedside evidence of

It is in all these matters that the relations of the house staff, as well as of the nurses, to the patients committed to their care are often lamentably deficient, and there is danger lest the present emphasis given to the science of diagnosis shall more and more obscure their training in the humanitarian side of their calling, and the realization that there are other methods of treatment besides the mere ordering of pills and potions.

34 EAST THIRTY-FIRST STREET.

THE CONVALESCENT BRANCH HOSPITAL AND ITS RELATION TO HOSPITAL REFORM.*

By S. S. GOLDWATER, M. D.,

NEW YORK,

SUPERINTENDENT, MOUNT SINAI HOSPITAL.

At the recent annual convention of the Association of Hospital Superintendents, it was my privilege to urge the importance of splitting into two parts all construction funds for general hospitals, one part to be devoted to the building of a main hospital for acute cases, and the other to be applied to the erection of a distinctive branch hospital for cases no longer acute. This plan is advocated as a means of obtaining the greatest possible return for each unit of capital and labor expended for hospital purposes. With the permission of the president I shall represent and further develop this idea to-night; but before doing so I trust that you will permit me to lead up to the subject by way of a few remarks which will illustrate its relative importance in the general scheme of hospital reform, and which at the same time will show the relative weight attaching to certain other measures of reform and retrenchment now prominently before the public.

Kinds of Economy Usually Considered, and Necessity for the Consideration of More Important Questions.—In a communication to the hospitals of Greater New York issued by the Committee on Hospital Needs and Hospital Finances, the proposition is made, that "It is the duty of the hospital, public and private, to conduct an active, progressive, educational campaign, notifying the public regularly and repeatedly as to hospital needs and hospital results." I think that we are all willing to declare our adherence to this proposition; but I venture to assert that the campaign actually inaugurated by this committee has scarcely touched the edge of problems that are really fundamental. As a rule, persons who take up for the first time the general subject of hospital reform, enter at once upon lines of inquiry having to do with expenditures for current needs. The report from which I have just quoted, interesting and instructive as it is, nevertheless repeats the popular error of exploiting certain small economies in one or another branch of expenditure—savings which, even if consummated, would leave untouched the general situation of the hospitals and the whole machinery of the community for dealing with its sick poor.

The committee is entirely right in demanding that wherever there is waste of ether, or alcohol, or surgical gauze, such waste should be abolished; and there is sound business sense in its suggestion that it is better to buy coal in cargo lots at wholesale prices, than to purchase it in small quantities at retail prices; but why do such matters as these monopolize the attention of committees of reform to the exclusion of questions far more vital? Why, for example, in a growing community like ours, is not some attention given to the timely reservation of hospital sites, a reform which in a decade would result in a saving of perhaps a million dollars? Why do we not decide upon the type of hospital building which, under the conditions existing in a great city, can be most economically administered; or upon the proper size, for administrative purposes, of a hospital of any accepted type; or upon the most advantageous method or system of grouping patients in separate establishments? These are questions, the study of which would tend to develop and to crystallize hospital policy. Unfortunately, we have not studied them with sufficient care, and it is for this reason that grievous economic blunders continue to be committed in hospital affairs by a community which boasts of its commercial and economic prowess.

The Timely Reservation of Hospital Sites.—Let us consider for a moment the question of hospital sites. In the early survey of the city of Toronto, in Ontario, land consisting of 399 acres was set apart for the purposes of a general hospital. A wise example, truly! but one which, after a hundred years, growing American cities have not yet learned to follow. Again and again New York city, and the private corporations that conduct hospitals in the city, have missed their opportunities. Just now, the new bridge across Blackwell's Island and several tunnels under the East River are approaching completion. Any one who has followed the growth and movement of population in and about New York knows that these improvements will be succeeded by an inrush of tenement dwellers into the borough of Queens. A larger and larger proportion of the city's poor will be crowded from year to year out of Manhattan and into Queens and the other outlying boroughs; and it is for the benefit of this class of the population that benevolent hospitals chiefly exist. Land speculators are busy to-day in the borough of Queens buying acreage to be cut into building lots for flats and tenements; but what far sighted hospital corporation has yet taken steps to secure, at the existing low land valuations, desirable sites for the hospitals which the future population of Queens must have? None that I know of, and probably nobody will invest a dollar in the reservation of an additional hospital site in that territory, until the population of the district has increased five-fold, until land values have multiplied, and until the scandal of carrying sick people many weary miles to the hospitals of Manhattan and Brooklyn, begins to weigh heavily on the public conscience.

The Question of Hospital Construction.—In the field of hospital construction, too, there is work to be done. We talk of one kind of hospital, the pavilion

* Read before the Medical Society of the County of New York.

hospital, as it is intended to embody features unattainable in hospitals of any other type. Surely we build a pavilion hospital and then say that it is the best. Let us come from the last annual report of the Worcester City Hospital, which is built on the pavilion plan. Without entering into a discussion of their comparative merits," says the committee, "it may be safely asserted that the pavilion hospital is a more economical type of hospital than are pavilion hospitals like ours, scattered over a large territory. Another name the hospital has been built; its plan is admitted to be a mistaken or at least a relatively negative plan; but the whole subject is far from settled until we have talked about it. But I ask why not enter into a discussion of the comparative merits of two types of construction which differ in cost? If one kind of hospital costs more to build and to operate than another, let us ascertain what the difference is and ask what it represents, if anything, in better service; and having determined what known type of hospital will give the best results, let us stick to that type until a better one is invented. There is an immense capital at stake in hospital construction in a city like New York. When the cost of building a hospital is \$1,800 or \$2,000 per bed and another at \$4,000 or more, is it not the duty of hospital reformers to find out and to make known just what these variations in cost represent in actual results?

The Size of the Hospital for General Purposes.

If we look into the subject of the proper size of general hospitals, we shall find that many opinions have been published. The question usually considered is, "How large may a hospital be without sacrificing good organization and proper supervision?" Now, there is another and a very important question to be considered here, namely, "How small may a public hospital be consistently with a reasonable percentage of cost for administrative expenses?"

On the report of the trustees of the Bellevue and Allied Hospitals for 1903 I take these figures, representing the daily per capita cost of maintenance in the four hospitals directly controlled by the board:

Bellevue Hospital, 1903, 1904, 1905, 1906	\$1.18
General Hospital, 1903, 1904, 1905, 1906	1.00
Hygienic Hospital, 1903, 1904, 1905, 1906	1.00
Harlem Hospital, 1903, 1904, 1905, 1906	1.00

The smaller the hospital the higher the relative cost. Beginning with Bellevue, the largest, and going to the figures representing daily maintenance per capita until we reach Fordham, the smallest, at \$1.86. After making suitable allowances for differences in the character of the work done in these four institutions, there remains a considerable variation in cost, due probably to several differences in the character of the hospital, its location, and its management. Harlem, and Fordham, its relatively spendthrift children. I am aware that arrangements have almost everywhere been made for the construction of larger and smaller hospitals, and the figures just quoted are not presented in criti-

cism of the managers of these hospitals, who really deserve high praise for their painstaking and progressive work. I quote these figures because they relate to four hospitals of different size which are under a single management; their meaning, therefore, cannot be misconstrued. To me they suggest that many small hospitals exist in New York under the control of private corporations, which would probably gain in efficiency by combining with their neighbors. The Committee on Hospital Needs has recommended cooperation in purchases; but such cooperation does not begin to represent the limits of useful combination. I am not proposing the abolition of the small hospitals; I do wish, however, to urge a study of the reasons for the existence of these hospitals; and to ask, on purely economic grounds, whether their existence is a benefit or a detriment to the community. No one who is seriously seeking the welfare of our city will object to such an inquiry.

These are a few of the questions which merit consideration in any general scheme of hospital reform, and we may add to them as belonging in the same important class, the question of the establishment of branch hospitals or convalescent homes.

The Segregation of Convalescents.—Hospital patients, as you know, are commonly divided into groups, either for sanitary reasons or for convenience in clinical observation and treatment; as a rule, economic considerations have not heretofore entered into the matter. But the proposition to cut off the convalescent group from every general hospital, and to house and treat this group separately, is advocated here mainly upon economic grounds. Some one may ask whether it is justifiable to proceed in such a matter upon a purely economic footing. It surely would not be justified if the proposed grouping were detrimental to patients; but if the division or subdivision of patients into acute and convalescent groups is entirely consistent with therapeutical ends, then the sooner this subdivision is effected, the better. I propose to consider in turn, first, the meaning of the proposed plan from the standpoint of hospital construction; second, its effect on maintenance charges; third, its value to the patient; and, fourth, its social significance.

The Convalescent Branch from the Standpoint of Cost of Construction.—An analysis of the cost of construction of modern hospitals shows almost at a glance that the prevailing high cost is due in a slight measure to economic causes which have affected all classes of building construction in towns; that it is attributable in a larger measure to the substitution of fireproof and sanitary building materials for cheaper and more perishable substances; and that in a larger measure still it is due to the fact that the modern hospital is designed for a concentrated service of acute cases of varied clinical character, for the treatment of which much space, many attendants, and considerable costly apparatus are necessary. It is this last factor that we have here to consider.

If we put the prevailing cost of construction at 40 cents per cubic foot (a reasonable allowance for high class fire proof construction), we must recognize that general hospitals nowadays

allow not less than 8,000 cubic foot, and in some instances 10,000 cubic foot for all purposes, for each bed occupied; and, therefore, that the cost of construction tends to approximate ($10,000 \times 40$ cents), or \$4,000 for each bed. Even in municipal institutions, planned without reference to the needs of private patients, an allowance of 8,000 or 9,000 cubic feet for each patient is not unusual, nor is it necessarily extravagant. A hospital planned upon this scale will be found to contain, or, at all events, it should contain, every ward appendage and every scientific and therapeutical invention which have been found advantageous in the treatment of acute medical and surgical cases. There will be operating rooms for clean and pus cases, and reserve operating rooms for emergencies; there will be examining and dressing rooms for the several wards; there will be laboratories for chemistry, pathology, bacteriology, clinical microscopy, radiography, and electrophoretics; diet kitchens for wards and diet kitchens for the instruction of pupil nurses; lecture rooms for nurses; libraries for the staff; and clinical record rooms for the registrar; there will be also accommodations for the numerous staff of resident physicians, executive officers, nurses, and miscellaneous employees; a complete outfit for mechanically ventilating the wards, operating rooms, kitchens, and laboratories; sterilizing apparatus for mattresses, clothes, surgical dressings, instruments, and water; an isolating building, equipped and ready for the numerous and varied demands of an epidemic. It is not necessary to continue the enumeration of facilities and conveniences which, as any one must see, are all necessary appurtenances of an establishment planned for the reception and treatment of a miscellaneous assortment of acute medical and surgical cases. The significant fact is, however, that in the average general hospital, and I think I may say in every general hospital, much of this space demanding and money consuming paraphernalia is not subjected to that constant usage for which it is fitted. Operating rooms are used but a few hours in the day; laboratories, similarly, are subjected to only part time service; indeed, the whole complicated machinery is adapted to the needs of as many acute cases as there are beds in the hospital, and yet a large proportion of these beds are actually used month after month by a succession of patients who, economically and clinically, are fitted for an entirely different environment.

Opinions differ as to the proportion of patients to be found in large general hospitals who would be benefited by removal to country surroundings. Probably the proportion of such patients is different in different institutions, and no doubt in any given institution the number varies from time to time. One might conservatively say that the proportion of such patients is 20 per cent. Dr. Rowe, superintendent of the Boston City Hospital, has recently estimated it at 40 or 50 per cent. Let us assume that the more conservative estimate is correct, and proceed to estimate the saving in construction which will result if suitable provision for these cases is made in planning a hospital to cost \$1,000,000.

Cost of Construction with and without Branch Hospitals.—With this sum (\$1,000,000) in hand, following the most approved methods of hospital construction, we can build, let us say, 2,500,000 cubic feet at the rate of 40 cents per foot. Let us say that the average space per patient required for all purposes is 10,000 cubic feet. On this basis, \$1,000,000 will produce a hospital of 250 beds at an average cost of \$4,000 for each bed; this is as far as our capital will go if we build as others have built before us—failing, at the outset, to divide our patients into two groups, and neglecting to make suitable separate provision for each.

In order to provide rationally for the numerous patients always to be found in a large general hospital, who might advantageously be moved to a country home of suitable construction and inexpensive organization, funds for hospital construction should be divided invariably into two parts; one part, the greater, should be devoted to the erection of the main hospital in the city; the other part, the lesser, to the construction of a branch hospital in a neighboring suburb.

Now what will be the gain resulting from this splitting of our capital? If out of \$1,000,000 we spend \$800,000 in the construction of a hospital of 200 beds at \$4,000 for each bed, and the remaining sum, \$200,000, in the construction of a country branch of 100 beds at an outlay of \$2,000 for each bed, the net gain will be 50 beds. In other words, invested as it is now commonly invested, in a single city institution, a building fund of \$1,000,000 will provide for 250 patients; invested as it should be invested, in a city hospital with a country branch, it will provide for 300 patients. From an economic standpoint, therefore, it is apparent that no general hospital is complete unless it is associated with an establishment for the cheaper treatment of convalescents.

The Saving in Maintenance Charges.—The gain resulting from this association will not be confined, however, to the construction account alone; there will be an equally important saving in maintenance charges. A city and a country branch aggregating 300 beds can be operated at an annual cost only slightly exceeding the cost of conducting a city hospital of 250 beds; for while the cost of caring for patients in an acute general hospital of the 10,000 cubic feet per capita type is approximately \$2 per day the cost of caring for patients in the few small and inadequate convalescent homes which already have been established, is approximately \$1.25 per day. At the main branch of the Massachusetts General Hospital the average weekly per capita cost in 1904 was \$16.95; at its country branch for convalescents the cost was less than half this sum, or \$7.88. At the Boston City Hospital in 1904-1905 the weekly per capita cost was over \$13; at the very small country branch maintained by the Boston City Hospital, the weekly cost of maintenance was only \$9.68.

It is true that the removal of inactive cases to the country branch and the substitution of an equal number of acute cases in the city branch will tend to increase slightly the per capita cost of the city branch, chiefly through its influence on the nursing account; and it is true also that

The patients who have been proposed, to transfer to the country will not elastically mean to transfer have been arranged for a certain amount of medical and nursing work. They are now voluntarily expected for the care of themselves at their own expense. They are not sent out of the city by the plan proposed will require a certain amount of nursing care for at least 10 per cent, and more for the first few months than can be expected in the home system. The possibility of some kind of nursing service, however, high class nursing service for patients who do not need it, and a more or less of nursing care. By the adoption of the proposed plan, the possibility of this service can be avoided.

It is to be noted that the Department of the removal of certain cases of patients during the early stages of convalescence have been with difficulty dealt with by others. I shall refer here only to a single case of a patient who had patients who have been the subject of surgical operations, and who remain in the hospital awaiting the healing of surgical wounds. These patients cannot in any case be turned adrift; but they surely ought to be removed from the hospital ward as early as possible. A number of such cases are now sent each year from the wards of certain London hospitals to the convalescent hospital at Swanley, and it has been shown that this transfer to country surroundings hastens recovery by many days. Nevertheless, I do not recommend a more rapid discharge of these patients. Even if their wounds are healed sooner, let us keep them as long as they are now kept (or longer, if need be), and send them back to their homes, not merely healed, but cured, strengthened and ready to resume work.

The report of the German Hospital of this city shows that in 1873, thirty-three years ago, the average duration of treatment of patients admitted to that institution was forty-two days. In 1878, the average duration of treatment had fallen to thirty-five days; in 1883 to twenty-nine days; in 1888 to twenty-six days, and in 1900 to twenty days. The tendency to curtail the period of hospital treatment is everywhere the same. The necessity of fresh cases, and the admission to hospital, and the present facilities be withdrawn, and the convalescent is compelled to suffer the consequences. But each general hospital, if supplemented by a convalescent branch, will be able to increase the duration of treatment of its patients without substantially increasing its expenditures, and thus will tend to substitute perfect convalescence to health and strength, in the case of treatment which is carried nowadays out in the period of a convalescent and convalescent treatment, as well as care.

It is to be noted that the Department of the removal of certain cases of patients during the early stages of convalescence have been with difficulty dealt with by others. I shall refer here only to a single case of a patient who had patients who have been the subject of surgical operations, and who remain in the hospital awaiting the healing of surgical wounds. These patients cannot in any case be turned adrift; but they surely ought to be removed from the hospital ward as early as possible. A number of such cases are now sent each year from the wards of certain London hospitals to the convalescent hospital at Swanley, and it has been shown that this transfer to country surroundings hastens recovery by many days. Nevertheless, I do not recommend a more rapid discharge of these patients. Even if their wounds are healed sooner, let us keep them as long as they are now kept (or longer, if need be), and send them back to their homes, not merely healed, but cured, strengthened and ready to resume work.

great charitable relief organizations of New York is charged to the home support of patients who were at one time treated in hospitals. Thousands of patients, after their discharge from hospitals, remain socially and industrially unfit for many years, and perhaps forever. Not the least important function of the proposed country branch hospitals, therefore, will be to save to the community all this wasted human life.

We shall be told, I know, that patients will not care to go to the country to complete their cures. I have dealt personally with many thousands of hospital patients, and I feel justified in most emphatically taking issue with this view. Some patients, at first, will hesitate; but the majority will not be slow to learn and to appreciate the advantages of a resort where good health awaits all who come. If the convalescent branch is organized and equipped for emergencies; if it will promise good treatment and will insure against the neglect of its inmates; if its patients are received kindly and treated with consideration, its shelter will be sought, as that of the hospitals is now sought, by such numbers that our work will never be done.

1000 AVENUE AND ONE HUNDRED STREET.

NEED FOR ACCURACY AND UNIFORMITY IN THE REPORTS OF HOSPITALS.*

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NEW YORK,

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The underlying thought in the subject assigned is not new to the medical profession. The question is whether or not in hospital operation you should not apply the same methods of research, and have before you the same accurate basis for judgment that you have in operating on and prescribing for your patients. Applying to the problem of administration the nomenclature of medical science, we may regard the hospital as having its own habitat, its anatomy, its physiology, and its pathology. Anatomically, the hospital is a form of corporate body that, through centuries of adaptation, has evolved attributes as common in kind as humanity itself, as uniform as the functions of the human body whose physical sufferings the hospital is designed to relieve. The functions common to all hospitals are general administration, professional service, ward service, dietary service, provisioning, housekeeping, laundering, and the general care and maintenance of buildings and hospital equipment. These functions and the organic parts adapted to their performance being common, all activities and all data pertaining to them may be classified and summarized, and thus reduced to a common basis for scientific thought. It is of course to be noted that many special characteristics have been developed, such as differences in supervising staff, in professional staff, in ward organization, in dietary arrangements, the addition of free dis-

*Read before the Medical Society of the County of New York, February 20, 1906.

pensaries, the organization of out patient departments, ambulance service, and other specialized adjustments in the nature of adaptations to conditions; all these must be reckoned with as a matter of institutional survival or corporate growth.

The study of function in its relation to corporate organism is the physiology of our subject; the exercise of judgment as to what function is normal and what is abnormal, the diagnosis of institutional condition, the giving of administrative direction and the exercise of administrative control—all are premised on the anatomical and the physiological study of the hospital. But this is not enough; abnormality of function must be accounted for before a remedy can safely be prescribed. The administrator must apply the method of scientific research to institutional pathological inquiry. He must be able promptly to get at the organic causes of maladministration and institutional inefficiency. His diagnostic faculties and instruments of precision must be such that he can tell whether the malady comes from a lack of administrative stimuli (symptomized by inaction and institutional atrophy), or whether it is traceable to a colony of grafters or to some other local parasitic infection.

Definition of a Science.—A science is a body of exact knowledge collected, classified and coordinated with reference to problems arising within some common subject of human inquiry. As a medical science could not be developed by the study of the anatomy, the physiology, and the pathology of a single individual, so administrative knowledge would be small, to say the least, if limited to inquiry with respect to a single institution. Neither can a science be developed by the research of a single investigator. There must be collaboration between many, and as a basis for collaboration there must be a common method of research, a common classification, a common basis for coordination of results obtained in order that each investigator may contribute something to the sum total of exact knowledge with respect to a subject of common interest. Hospital organization and administration has come to be a prominent subject of inquiry. Hospital organization and administration must, therefore, become a specialized science, the making of which is dependent on the combined intelligence and experience of all those who are engaged in this branch of business activity before we can establish such a basis for direction and control as will meet the requirements of men of professional training.

The Scientific Study of Hospitals.—Viewing the hospital as one of the necessities of modern life, and the problems of hospital organization and hospital administration as a proper subject for inquiry, the practical question is this: How may we go about it to put the art of hospital operation on a scientific basis? As a matter of practice, how has medical science, geological science, physics, chemistry, botany, linguistics, engineering, architecture, law been reduced to a plane of exact thinking? We have our colleges of medicine, our university departments of geology, of

physics, of chemistry, of languages, our schools of engineering, architecture, and law. In these the essential feature has been the association of workers who, by use of a common method of research, have cooperated for scientific results. That we may have the practical question squarely before us, let us assume that there were organized a commission or a bureau of hospital research. With such a group of investigators collaborating under competent direction what might be accomplished?

What May Be Done by the Scientific Study of Hospitals.—One of the first questions of hospital organization relates to hospital needs. The hospital is the institutional instrument organized for the purpose of providing the conditions best suited to success in surgical operation and medical prescription. As surgery and medicine have become highly specialized, so also has hospital service. The need for hospitals is the need for institutional facilities for the application of specialized remedial aid to the sick and the injured. By humanitarian impulse some one is moved to give. Some one desires to contribute a fund for the relief of the sick poor. Shall it be in aid of the medical and surgical specialty of tuberculosis, obstetrics, ruptured and crippled, abdominal surgery, eye, ear, and throat, gynecology, insanity, contagious diseases, or what? The intelligent determination of hospital needs must depend on scientific research.

Having determined that the institution shall take the form of a tuberculosis hospital, the next question is as to location and physical equipment. Generally speaking, the question of location is one which has reference to the convenience of the community to be cared for or to the natural conditions favorable to remedial treatment to be administered. An institution for obstetrical practice should be placed in or near a crowded quarter which is not already so supplied. A hospital for contagion should be isolated yet within easy reach of the city. A tuberculosis hospital should be so located as to secure the conditions most favorable to physical invigoration and successful combat with the localized infection. The interests of medical and surgical science would suggest that benevolence and public expenditure should have the guidance of some association or authority competent to advise.

Even more urgent is the need for research and well digested records pertaining to matters of hospital housing and equipment. The highly specialized uses to which the hospital is to be put require a highly specialized architecture. Assuming that a bureau of hospital research were established, there could gradually be brought together such architectural experience as would add permanently to the social efficiency of bequests and as to the working efficiency of institutions established on private or public foundations.

Before the informative basis for hospital organization is complete data pertaining to location and physical equipment must be supplemented by exact knowledge with respect to hospital service. How should a corporation be organized to obtain the best corporate results?

As a result of continuing such results, a bureau of hospital research would be an invaluable, we may say, indispensable, aid. Without some agency through which scientific cooperation can be maintained, there is no union and each investigator is working independently, and hospital practice is not part of the science of a science. We must be the same—either the work be done on the independent basis, or with commonness & unity. At hospitals and hospitals associations in the present conference among hospital administrators and executives—certainly it is that the research and hospital work is

By application to well established standards of efficiency and normality in medical and surgical practice, the superintendent (for example) discovers a symptom of institutional disease in the alcohol bill. Inquiry as to this locates the cause in the use of ninety-six per cent. alcohol for rubbing backs. Another symptom of economic weakness is found in the gauze supply. Administrative diagnosis discovers that the surgeons and physicians are careful, but that antiseptic gauze is used by the nurses in cases or at times when unsterilized muslin bandages or towels would serve as well. The expense for supplying food seems abnormal, this may be traced to a lack of responsibility for supplies permitting petty thievery by servants, to the wasteful use of food stuffs, to the serving of high priced viands to the house servants, to the purchase of provisions out of season when seasonable ones would have the same dietic value, to one or more of a hundred other causes. In every part of the institution the management is improved, and economies may be pointed out by having some

basis for judgment that will indicate a pathological condition.

What May Be Done by the Formulation of an Effective System of Accounting Control.—Above all the administration of an individual hospital depends on the system of control through the accounts. In this hospitals are woefully defective. Like the life insurance company and other trustee institutions they have failed to appreciate the meaning of administrative control, and the duty of hospital boards to introduce such systems of account which will give it. By way of assembling and transmitting the method and means of collecting and classifying the financial data, and coordinating these data around problems of administration a central bureau of hospital research can do much to raise the standard of efficiency. Such an agency would prove especially effective in establishing a form or basis for reporting which would give to the public and to benefactors an intelligent account of hospital trusteeship.

30 BROAD STREET.

TECHNICS OF THE RADICAL TYMPANOMASTOID OPERATION WHEN COMPLICATED BY THE ANTERIOR POSITION OF THE SIGMOID SINUS.*

By W. SOHIER BRYANT, A. M., M. D.,

NEW YORK.

There is an idea more or less prevalent in the profession that the radical operation is seriously complicated when the sigmoid sinus approaches the external auditory meatus. The following cases, in my practice, show that the fear of bad results in this anatomical condition is unwarranted:

CASE I.—This case was shown before the New York Otolological Society, the Otolological Section of the New York Academy of Medicine, and the American Academy of Ophthalmology and Otolaryngology. The patient was a pale, well developed woman, twenty-four years old. The year before she had lost a sister from meningitis following a radical operation for ear conditions similar to her own. For many years she had had otorrhœa and severe headaches. She had undergone prolonged treatment which included the removal of the ossicles and tympanic curettage.

When I first saw the patient, the tympanum appeared devoid of contents and of drum membrane. From the neighborhood of the aditus there was a scanty and very fetid discharge. With a probe, a large area of rough, dead bone was found on the upper and inner wall of the tympanum and antrum. No bone could be felt directly over the tympanum. On external pressure, there was tenderness over the antrum. The temperature was 99° F.

Operation.—The operative field was sterilized in the usual manner, and the ear douched with a 1 to 3,000 solution of corrosive sublimate. I commenced a radical operation under ether anæsthesia by making a curved incision down to the periosteum from the tip of the mastoid process to the upper border of the pinna, one quarter of an inch posterior to the fold of the ear. The chief bleeding points were secured with artery for-

ceps. With a straight periosteum elevator, the periosteum was cut and drawn forward and backward from the line of incision, and the external surface of the mastoid process was exposed from the temporal ridge to the tip. Great care was taken to remove the periosteum in an unbroken sheet, because of its value in hastening convalescence.

Beginning at the point of election two mm. below and six mm. behind the spine of the meatus, with my



FIG. 1.—Front bent gouge.

front bent gouge (Fig. 1), I then bored a hole parallel to the posterior wall of the osseous meatus. After proceeding through compact bone for four mm., the dura mater was uncovered. I then enlarged the circular hole with my gouge and cut a groove in the outer table of the mastoid process parallel to its anterior surface. This groove extended fifteen mm. from below the temporal ridge, and thus exposed more dura mater over the knee of the sinus. I then separated the periosteum with my small specially adapted periosteum elevator—(Fig. 2)—without lacerating it, from the whole posterior and upper walls of the osseous meatus. A thin, narrow sheet of copper bent backward at its tip was inserted into the meatus behind the periosteal flap, and



FIG. 2.—Periosteum elevator.

its hook caught in the aditus ad antrum. This hook was kept in position to protect the periosteum and epithelium of the osseous meatus so long as there was danger of wounding it.

With a rongeur, the bone was then removed from the back wall of the meatus. This bone at its thinnest point over the knee of the sinus was less than one half mm. thick, that is, about as thick as heavy wrapping paper (Fig. 3).

The dura mater was pressed back out of the way with a flat bent retractor to facilitate the removal of

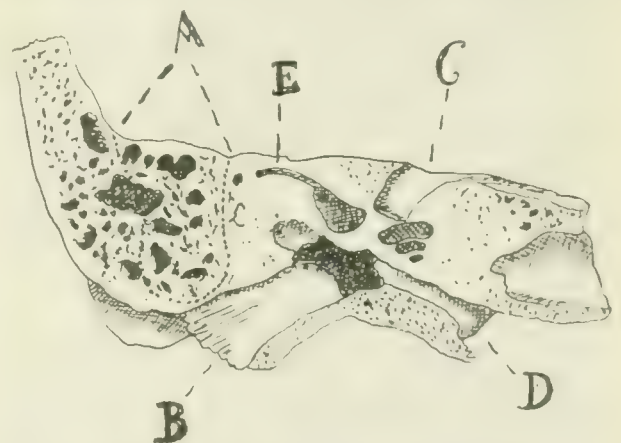


FIG. 3.—Horizontal section through the right temporal bone midway through the meati, showing diagrammatically by a dotted line, A, the course of the lateral sinus in our case; B, external auditory meatus; C, internal auditory meatus; D, Eustachian tube; E, horizontal semicircular canal.

the meatal wall. The outer wall of a very small antrum mastoideum was exposed. This was opened with my gouge. No pneumatic cells were encountered. The bone was eburnated, except in its carious parts.

On exploring with the probe in the neighborhood of the tegmen tympani, the probe suddenly slipped upward

* Read before the Eastern Section of the American Laryngological, Rhinological, and Otolological Society, held at Syracuse, February 10, 1906.

the lower wall, and then demonstrated that the upper wall was intact, and that there was a communication between the two parts. The tympanic membrane was found intact, and the middle ear cavity was normal. The outer wall of the external meatus was removed. The wall was curetted very carefully, with a small curette, to avoid injury to the posterior canal. The remaining part of the external meatus was removed with the curette.

The upper posterior part of the inner tympanic wall and aditus was rough, bare bone. This was curetted carefully to avoid the labyrinth and the facial nerve. Taking precaution to stop as soon as firm bone was reached, and not going more than two mm. to the lower border of the bony antrum, I removed the bone from the bony table posteriorly and superiorly, until the lower canal opened out to the tentorium cerebelli.

The dura of the posterior fossa had been exposed over a triangular area twenty mm. long with its base outward. The dura of the middle fossa was exposed over a rectangular area twenty-two mm. long antiposteriorly and twelve mm. deep. The dura appeared very thick and white over the tegmen tympani and mastoideum and normal over the sinus.

With the front bent gouge, the posterior osseous wall of the meatus was levelled in a line from the floor of the aditus ad antrum to the outer lowest point of the tympanic plate. The outer wall of the attic and the hanging wall of the meatus were also removed with the gouge. After the removal of the bony table the middle ear cavity was thoroughly curetted to promote its occlusion by cicatrization and the membranous meatus had



FIGURE 1.—Dissection of the internal and sigmoid sinus.

been left for a length of its posterior wall, the wound was sutured with a series of small silk sutures. The patient was discharged after one hour and one half of hard work. The dissection of the labyrinth capsule occupied most of the time.

A piece of wet bull fresh tissue, with its edges turned in, was placed on the uncovered knee of the sinus and carried out of the wound. The periosteum and skin flaps of the wound were put in apposition and the remaining space was filled with blood. The reason for closing the wound was to facilitate the formation of the blood clot and to allow a steady healing by first intention, as possible. The wound was lightly packed with plain absorbent cotton wool, care being taken to remove the flaps of the ear. The membranous meatus was sutured. A gauze dressing, soaked with normal salt solution, was put over it.

Convalescence.—The wound was dressed daily. The temperature after the operation the temperature of the rectum reached 100.6°. During the first night the patient lay on her back and the gauze drain was removed from the wound and the packing was taken from the wound. On the fourth day the tympanic cavity was found to be empty and a strip of gauze lightly placed in the meatus.

The patient's diet was gradually increased and the temperature gradually returned to normal. The patient was up and about in ten days. The use of alcohol in the diet was discontinued. The temperature did not again rise above normal. On the eleventh day the patient was up and about. On the thirteenth day the wound healed. On the fourteenth day the patient was discharged.

On the fourteenth day the patient went out. On the twenty-second day the ear was perfectly dry and had ceased to discharge. On the twenty-third day the enlarged tympanic membrane was completely epidermatized. The middle ear cavity was the only granulating point. On the twenty-seventh day the patient had gained thirty pounds since the operation. On the forty-second day the tympanum was solidly epidermatizing. On the fifty-eighth day crusts and scabs had ceased forming and were all desquamated. On the seventy-first day the watch was heard at a distance of nine inches.

Nine and one half months after the operation, the ear was in the same good condition. On inspection, the upper posterior outer portion of the meatus appeared blue. When the vessels on the side of the neck were compressed, a pulsation of this blue area was clearly seen. This was unquestionably the knee of the sinus showing through. Seventeen months after the operation, the same watch was heard at a distance of ten inches, and the ear remained clean and shining, and in the same perfect condition. The knee of the sinus was visible, but was not as blue as formerly.

CASE II.—This patient was a woman about forty-eight years old. For very many years she had suffered from a running ear and from frequent, excruciating

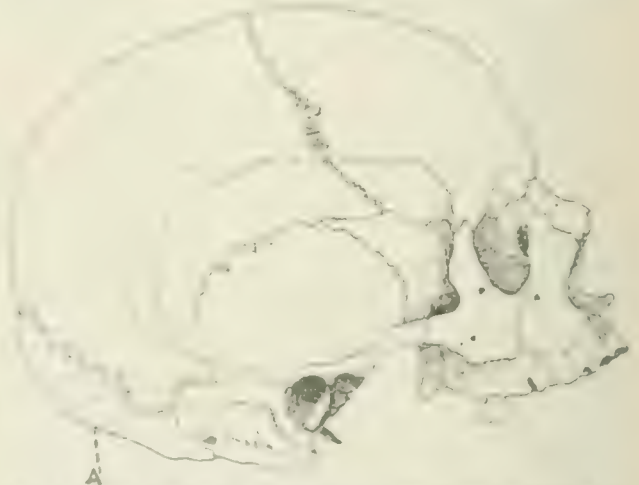


FIGURE 2.—Dissection of the internal and sigmoid sinus in a dotted line A.

headaches and occasional rises of temperature. She suffered from a doubled up case of old Potts's disease, and for a number of years had been an invalid. She weighed about seventy pounds. Before the operation, her temperature was 99° F., pulse, 82, respiration 18.

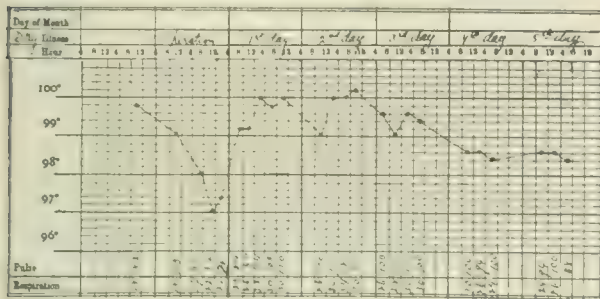
Operation.—The preparation for the operation was similar to that of the previous case, except that a subcutaneous injection of 0.01 grain atropine and 0.25 grain morphine, and one drachm of fluid extract of ergot were given. The operation was performed under nitrous oxide gas and ether. I commenced with my front bent gouge, following the same method and technics as in the preceding case. The outer table of the mastoid process was entered and soon the sigmoid sinus was uncovered at the knee. The bone of the posterior meatal wall covering the sinus was taken out. At its thinnest point, the bone measured two mm. in thickness.

No cells were found. The whole bone was sclerosed. There was no antrum and nothing more than the aditus. A little cancellated bone took the place of the antrum. The region of the tegmen and that portion posterior to it were a mass of granulation tissue. When the dura was uncovered at this point it appeared much thickened. The bone covering the inner and anterior

aspect of the knee of the sinus was very friable. The sinus pulsated; on rotation of the head, the pulsation ceased.

The tegmen covering the mastoid antrum was dehiscant over its entire extent. The dura was very thick, but not discolored. The edges of the perforation in the bone were crumbly, and were removed, exposing the dura over an area of twelve mm. by six mm. As in the previous case, the two openings where the dura was exposed were thrown into one. The tympanum was found fairly clean. It had a hard, smooth, bony wall. There was no sign of pus anywhere. No ossicles were found. This operation lasted fifty-five minutes. The wound was dressed as in the first case.

Convalescence.—On the second day after the operation, the temperature was 100.2° F.; pulse, 110; respiration, 30. This was the maximum record during the convalescence. There was severe pain in the head and an ice cap was applied. Morphine, 0.25 grain, was given twice during the day. On the second day there was severe headache and the ice cap was again used. On the fourth day, the temperature was 98.6° ; pulse, 94; respiration, 24. The severe headache continued. On the fifth day, the wound was dressed. There was a small quantity of foetid discharge of grayish yellowish hue. The bone was bare and sloughy in appearance. There were no granulations. The ear was cleansed with hydrogen peroxide, and boric acid pow-



Temperature Chart of Case II.

der dusted in. The posterior wound had closed by first intention. There was still much headache, and the ice cap was applied. On the sixth day, the tympanic wound was much improved. The ear was syringed out with saline solution and hydrogen peroxide instilled, followed by the insufflation of boric acid powder. The posterior wound had broken down. There were no granulations in it. On the tenth day, the posterior wound closed again. The patient was much improved, but had darting pains in the head.

On the eleventh day the patient sat up. On the twelfth day the temperature was 98° ; pulse, 80; respiration, 24. On the fourteenth day the patient was fairly comfortable. On the twenty-fifth day there had been no discharge from the ear for some days, and the middle ear was nearly dry. The patient was very comfortable, and went home. On the fortieth day, the desquamation of the scar had finished. On the fifty-second day, there was no deformity seen and only an external faint trace of the wound. On the sixty-second day, the middle ear and canal had wholly epidermitized. On the sixty-eighth day, there were occasional slight headaches, but they differed from the old headaches in character and location. The acoumeter was heard at a distance of twelve inches.

These cases show the advantages of the use of my front bent gouge. Since the position of the sinus cannot be determined previous to the operation, extreme caution must be used in removing the outer table of the mastoid. The front bent gouge insures perfect safety in this

procedure. It obviates the risk and delay caused by wounds of lateral or sigmoid sinuses. It also supplies a very delicate and powerful instrument for the minute bone dissection required in removing the tympanic walls. It gives the maximum of insurance to the operator against accidental wounds of the facial nerve and semicircular canals as well as sinuses.

When the sinus has been uncovered in an extremely anterior position, the posterior wall of the auditory meatus is removed, and the dura mater covering the front of the cerebellum is pressed back with a flat retractor, to allow the operator to enter the antrum mastoideum without further trouble. The membranous meatus is slit posteriorly and longitudinally and is lightly packed with gauze to slightly separate the edges of the cut surface. The post aurial wound is allowed to close without sutures and the remaining small cavity fills up with a blood clot.

The reasons for not packing the excavation are that the granulations grow much better and do not become redundant when the packing is omitted. They are not pressed out of existence with too tight packing, nor irritated into fungus growth by the stimulation of too loose packing, but a natural, healthy, solid growth takes place which readily allows the encroachment of stratified epithelium.

The happy mean or proper use of packing is difficult to achieve, moreover it is unnecessary, as there is nothing but disadvantage in a large epidermatized cavity which results from packing.

The assistance of a collapsed wound filled with a blood clot is utilized to aid in obliterating the large excavation which the operation requires. This enormous cavity, when it is kept open, needs a very long time for epidermization, unless skin grafting is done. Lessening the volume of the chamber shortens this period proportionately. My modified blood clot method reduces the size of the enlarged tympanic cavity and consequently the size of the surface which must either granulate up or epidermatize, thus shortening the convalescence considerably. It is desirable to reduce the size of the resulting cavity to as near that of the normal tympanum and meatus as possible, thus favoring the spontaneous ejection in later years of cellular detritus through the meatus. On account of the shortened convalescence, skin grafting is not necessary.

Another advantage in this method, sometimes a very important one, is that my modified blood clot gives the maximum result in cosmetic effect by reducing the deformity resulting from the scar so that nothing more conspicuous than a linear cicatrix is left.

The second case shows that the blood clot is not dangerous if infected. The infected clot melts away and leaves only the portions which are not infected. The portions which withstand infection aid considerably in the process of repair.

After treatment is directed to the avoidance of traumatic injury to the granulating surfaces. Boric acid has proved itself to be the best form of dressing. When, toward the close of epider-

Moreover, some papers are evaluating the direct (the process-oriented) with indirect (the product-oriented) methods.

The radical operation is the excision of the tongue, but is indicated when it becomes necessary to remove the affected area in toto, to prevent its slow, the Hunan-like, in order to avoid the danger of metastasis to other parts of the body, such as the lymphatic system of the body. The great majority of cases of carcinoma of the tongue are of the squamous type, but are without regard to the operation by the author. I have described elsewhere. Everything except the removal of the affected area in toto can be accomplished in most cases by other means than the radical operation. When the radical operation is found necessary, it is then able to follow the technique which will give the shortest convalescence and the minimum deformity with the best possible hearing.

My modification of the radical operation and the procedure has advantages in the ease and safety of the operation, in the shortness of the convalescence and the insignificant scar left in all cases, and in the comparatively good hearing resulting which is in proportion to the shortness of the convalescence.

of the sinus is no obstacle to a complete radical

11. The front bent gouge is the safest and handiest instrument for the bone carving necessary in cranial surgery.

III. Avoidance of packing in the excavated middle ear cavity results in a minimum of deformity and scar. It also does not produce objectionable granulation. It favors ankylosis and epidermization by lessening the cavity which must granulate up and the area which must heal by epithelialization.

IV. My modified blood clot hastens the con-

is no contraindication to this modified blood clot

The presence of the dura mater does not contraindicate the modified blood clot.

rior wound in order to secure a perfect cosmetic result.

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TO PHYSICIAN'S DUTY TO HIS
PATIENT.*

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Ethics means the science of doing right, the science of human duty. It is living day by day the good and noble and honest and loyal and pure. Ethics is the ripe fruit of a noble soul. There is in it the noblest and the best of all that we can do. It is the things that are supposed to help you win the race from your fellow man, that it is well for us to

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...at a moment and ask ourselves: What is our duty to our fellow man?

As physicians we will consider the subject under three subdivisions: Our duty to our patients; our duty to our fellow practitioners; our duty to the public. To-day we shall consider the first of these subdivisions: Our duty to our patients.

The physician is admitted into the most sacred chambers of human life. The sick room is the house of God. The patient places his life in his doctor's hands. More than that, the patient frequently confides in his physician in regard to his business and family. He trusts the one he has chosen for his medical attendant. Be worthy of that trust. Teach your patients that they may have absolute faith in you. Your patients must provide you a living, but get that living honorably, get it without being hard on any poor person, get it without grinding.

The question is asked: Shall a physician dispense his medicines or write prescriptions? My answer is: Do both. If your patient is well to do you can prescribe for him entirely, and thus have his medicines put up in a more elegant manner than you could dispense them. If your patient is poor and needs a laxative, give him a few aloin, belladonna, and cascara tablets that cost you but a few cents per thousand. If a little strychnine is needed you can save your poor patients much money by using tablets.

For your principal remedies you will probably find it best to write prescriptions. In that event try to write as inexpensive prescriptions as possible. When I was a boy I read a story by Charles Reade, the title of which is *Put Yourself in His Place*. Put yourself in your poor patient's place. Remember poverty is terrible; add sickness to poverty, and hope vanishes. Have an understanding with your druggist that when there is a certain hieroglyphic on a prescription he is to know that the recipient is a poor patient and the medicine must be furnished at about cost. Do not have any rule that you must dispense, or that you must prescribe, but simply do what is best for the case in hand. Teach your druggist that he must charge poor people the least possible amount.

Just a word here. Honesty is the best policy is axiomatic. That is a poor reason for being honest. Still it is better to be honest through mere policy than not to be honest. Consideration for the poor is the best policy. The poor patient this year often becomes the rich patient next year. As a rule he will never forget your kindness. Be charitable through policy if for no other reason.

Often you will be appealed to by a wife, or by the father, or mother of some troubled wife, to advise in regard to securing a divorce from a more or less dissolute husband. Do what you can to preserve intact the family. Many men will go wrong and then come around right again. Let your arguments, your conversation, your influence all be in favor of the perpetuity of the home.

As a rule the physician should be frank and open with his patients. If a patient has tuberculosis he should, for the protection of those about him and for his self protection, be told that he has tuberculosis. After once telling him his real condition, hold out all of the hope possible. Present the optimistic view of every condition. Try to imbue every patient with hope. There is a hopeful side of almost every case. In my early practice I frequently pronounced

the death warrant. Every year surprises would come. People would thoughtlessly recover who, according to all of the textbooks, should have died. While there is life there is hope. Fan into a flame every spark of hope, and thus utilize to its utmost Nature's most potent remedy. Sometimes it is best to not tell a patient his real condition. Such occasions are rare. Then, if asked the disease, you may give a technical reply. This is getting to be an intelligent world. It is demanded that the practitioner talk in good, plain, understandable language.

Do not talk Latin to your patients. Endeavor never to mystify them. Encourage every intelligent family that you attend to purchase a few good books that will teach the care of the sick in plain terms. The best books for patients are those written for nurses. General textbooks on nursing, books on food and diet in health and disease, and especially books on obstetric nursing are excellent for family reading. A few years ago there was not a book written especially for nurses, now there is a library of them. About three or four of these, well selected, will be of great aid to a mother in caring for her family.

Do what you can to eradicate superstition wherever you may go. As the sparks fly upward, so is man drawn to the superstitious and the occult. It was not so very long ago that it was popular to scrape thoroughly the tombstones on the graves of the saints. The powder so obtained was then put into water or wine, and thus a medicine was acquired which possessed an astonishing curative power. An historical character of that day said of it: "Oh, indescribable mixture, incomparable elixir, antidote beyond all praise! Celestial purgative, which throws into the shade every medical prescription, which surpasses in fragrance every earthly aroma, and is more powerful than all essences; which purges the body like the juice of scammony, clears the lungs like hyssop, and the head like sneezewort; which not only cures the ailing limbs, but also, and this is much more valuable, washes off the stains from the conscience." Just as wild claims are made to-day for most unreasonable things. In trying to educate your patient away from superstition be careful that you do not prejudice him against religion. Superstition is to religion as a wart is to a nose. Remove the wart but leave the nose.

The vagaries of the human mind are wonderful to contemplate. Take Christian Science, where they maintain there is no such thing as pain, disease, or death. That cult has hundreds of thousands of followers. Do not abuse or vilify, or when a Christian Scientist gets sick and sends for you do not say, "I told you so." Go along quietly, usefully, consistently, and let your daily walk in life be the strongest argument for rational belief and rational systems.

How shall you collect your bills? In a fair and systematic manner. In a business like way. Try to get business habits. It is an awful task when your heart is full of interest and enthusiasm in a case, when you are deep in scientific study, to have to stop and enter sordid dollars and cents in your books. It records such an intellectual fall. It is terrible. I sympathize with the physician who chafes and rebels at the mercenary side of the practice of medicine. It is detestable. Still it is necessary. You should be accurate and send out your bills, as a rule, at the first

of each month. Do not harass or bring suit in order to collect. Such instances might be intrinsically right but practically wrong. Know the financial condition of a patient before you press a claim.

There are 13,000,000 families in the United States, and of these only five per cent. have incomes exceeding \$3,000.00 per annum, counting both the proceeds of invested capital and the earnings of the entire family. One third of all the American families live on less than \$400.00 per year, and over one half live on less than \$600.00 per annum. Remember these are families, not individuals. How are these people with very small incomes to receive skilled medical attendance without losing their self respect and independence through becoming recipients of charity?

Railroad employees are banded in what might well be called companies insuring against sickness. By paying fifty cents or one dollar per month each, they receive as their right medical treatment and hospital care whenever they are sick or injured. To accomplish the same purpose many who are not railroad employees have organized themselves into fraternal societies where they pay systematically a fixed monthly sum and receive medical treatment and hospital care when they are ill and decent burial when they die. I can readily understand the comfort a man of family, who earns only \$2.00 per day, might derive from knowing that the medical care of himself and his family was paid for in advance. There has been a great deal said against the railroad contract physician and the lodge contract physician, but I am not going to lay down any rules for you in these matters. Be as independent of all masters, excepting and alone the master spirit of serving your patients, as you possibly can. There is nothing dishonorable in being a railroad physician, a lodge physician, a physician for a mining company, or a physician for any other corporation. As to the advisability of it, you must each one of you settle that for yourself. Whether you work for a lodge or a railroad, see to it that the poorest member or employee receives just as thoughtful and assiduous care as your wealthiest patient.

When you once assume the charge of a patient do your utmost to cure him. You must treat individuals, not diseases. First make the diagnosis. To do this the laboratory, the library, and your experience must be drawn on. Neglect nothing that will aid you in securing a clear idea of the condition. Take abundance of time in making an examination. By being thorough in your methods of making a diagnosis you will have a clear conscience and your patients will respect you.

When it comes to treatment you must be ready to make any sacrifice. You have assumed the responsibility of a life. Let there be no limit to your exertion, to your self-sacrifice to save that life. A few years ago when the radical operation for hypertrophy of the prostate gland had only been performed two or three times on the Pacific coast, I passed through a Los Angeles hospital at 1 o'clock in the morning and there, pacing up and down the corridors, stopping now and then to look at his patient, was a well known Southern California surgeon. He had done a prostatectomy the previous day and his patient was not doing well. He had taken him back to the operating room and was now doing everything possible to maintain his vitality. For three days and nights

Within the last few years a book carrying a most unusual title has gained a surprising circulation. The book is a fascinating mixture of crude legends, folk-lore, customs, and human nature. Its aim is to show the "inner meaning" of the "outer" of life, and it is a very good one. The book is "Do unto others as you would be done by," which is "Do unto the other as he would do unto you, but do it not." This is a good book. Do unto others.

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These are among the questions which suggest themselves as we approach this subject. At the outset it is to be said that an intimate relation between the throat and the ear does exist. This is fully recognized by most authorities on the subject. Politzer in his treatise on the ear devotes twenty pages to the throat and nose; Trautman in Schwartz's *System*, seventy-five pages; Dench, fourteen; Bacon, thirty-three; Jacobson, thirteen; Hovell, thirty-seven. All refer to the nose and throat as largely concerned in producing ear diseases. None, with possibly one exception, speaks at any length on the indications for or the results of such treatment.

In considering the question, two facts may be stated without any extended consideration: 1, The close association of the throat and ear anatomically, lying as they do at either end of a short canal which opens during the act of swallowing. This is further proved by the similar character of the mucosa lining the nose and Eustachian tubes, the rich blood vessel supply of the tube proceeding from the nasopharynx, as well as the situation of the tubal muscles and the abundant lymphatic supply springing from near the pharyngeal mouth of the tube. All this has been abundantly shown by Sappey and others. 2, The great benefit to be obtained in diseases of the middle ear in children from the removal of adenoid growths. (Whatever the significance of such improvement, whether, as is usually regarded, it is due to the restoration of the proper intratympanic atmospheric pressure or to some other cause, the fact remains.)

So far it is safe to assume that we are all agreed. When we come, however, to the broader, more controversial aspects of the case which especially concern us to-night, viz., what rôle the nose alone plays in the production of intratympanic disorders and what weight we should attach, on theoretical grounds and from clinical experience, to correction of nasal affections *as a part of the treatment of the aural disease*, we touch at once on ground where an honest difference of opinion may be anticipated. The correlation of these two questions is beyond dispute. Unless the nose plays a part in producing otitis media it goes without saying that it cannot enter as an important element into its cure. What then is the true relation of the nose in regard to middle ear disease?

As we have just seen, most writers on the ear have accorded the nasopharyngeal tract a principal share in the aetiology of otitis media. Gruber even says (quoted by Koyle¹): "Pathological changes peculiar to the organ of hearing have no existence." That there may be no excuse for excursions from the main question before us, let us clearly state that neither sclerosis of the ear nor true labyrinthine disease are considered as possible factors in the question under discussion. We are concerned only with the so called hypertrophic or proliferative middle ear catarrh. That the nose is responsible for a certain large proportion of cases of the latter condition, there can be no question. Its direct connection through the throat is manifest. That it is at fault, however, in all pathological changes in the throat, apart from the question of the ear, we would not maintain for an instant. Not every one with nasal obstruction suffers from throat difficulty, nor is

every affection of the throat to be traced to a nasal lesion. Indeed, it was our privilege, in a paper read some years since on the prognosis of middle ear disease, to comment on this very position which certain extremists have come to assume. Such overenthusiasm in an organ as a cause of disease has been graphically referred to in those two remarkable lectures of Sir Felix Semon on *The Principles of the Local Treatment of Diseases of the Upper Air Passages*,² where he says: "Starting with a morbid readiness to detect disease, they (the specialists) suspect the cause of all ills to which human flesh is heir to be situated in their own favorite little nook, and when they detect the smallest deviation from the normal there they persuade themselves they have discovered the true source of the patient's complaint and immediately proceed to demolish it with fire and sword." And again, "That *enfant terrible* of modern medicine, the nose, is, in the opinion of some of its most stubborn devotees, the source of most if not all of our woes, and even lesser degrees of so called 'nasal inadequacy' possess, to listen to them, an importance which I, for one, do not admit."

In his further reasoning we are, however, unable to follow the distinguished author altogether. He argues that only nasal obstruction is to be considered when the Eustachian tube is stenosed. He admits that he is not an aurist, and we all know that in the great majority of cases of catarrh of the middle ear which are not sclerotic, the tube sooner or later becomes more or less involved, so his distinction, as far as concerns middle ear disease, is theoretical. At the same time we do not forget that while in the complaint of the patient himself we have in many instances the suggestive proof of the rôle of the nose and throat as a cause, other patients suffering from otitis media do not admit on direct question any trouble referable to those organs. Further, in the rule which Sir Felix seeks to establish as a guide, when to interfere in the nose, lies the greatest opportunity for serious error. No fact is more apparent to those of us who are working in this field than the evidences in all cases of middle ear disease of any duration, of advancing and permanent pathological changes within the tympanic cavity. Right here is found the explanation for failure by intranasal treatment in not a few cases which have been reported.

Dench has clearly pointed out the impossibility of cure after organized changes in the middle ear have taken place and the prime importance of preventing, or at least checking, these changes by removing the tendency to attacks of acute coryza, so potent a factor in producing the chronic condition. Ventilation of the middle ear is all essential in the preservation of perfect hearing. It is further recognized that this ventilation can only be secured by a normal Eustachian tube. In the vast majority of cases such a tube will only be found when the nasopharynx is healthy, and an important means to this is a healthy nose. Any obstruction to proper nasal respiration is found to be a menace to such a healthy state of nose and nasopharynx. Such are the commonly accepted views of most otologists to-day.

The probable results of such obstructive lesions of the nose have been well described by Mr. Scanes Spicer in a notable discussion on this very subject

¹ *The Laryngoscope*, October, 1905, page 773.

² *Annals of Otology*, 1901, pp. 1,313 et seq.

before the British Medical Association a few years ago when he said: "Modern rhinology explains how nasal obstructions become necessary conditions of air-tension in the nose and nasopharynx; how then changes of air-tension (especially negative pressure) cause chronic inflammation and narrowing of all vascular tissues behind the nostrils; how in these latter changes the process of the pharyngeal end of the Eustachian tube shrinks and how this vascular system consequently causes closure of the Eustachian tube. Catarrhal rhinitis and rhinitis are probably the most common causes of stenosis. If there are stenoses only the nostrils, and so the stenosis, are increased and perpetuated until a hyperplastic rhinitis and hypertrophy sufficiently narrow both nostrils and the osseous and bony part of the tube, and at last a hyperplastic otitis media with adhesions and ankylosis."

While such a picture as this is too apt to be seen following nasal obstruction, we have just shown it is too sweeping to assert that it invariably takes place or that every case of middle ear catarrh is the cause of such obstruction. Accordingly a teaching which advocates surgical interference for all obstructions in the nose, regardless of every other consideration, is manifestly too radical.

A more correct guide would be to practice intranasal surgery only when such obstruction is affecting the middle ear or Eustachian tube through a secondary nasopharyngitis, or is in danger of producing such inflammation by an already existing nasopharyngitis. This, it will be readily seen, includes a considerable number of all cases of nasal obstruction producing a rhinitis, for we know how liable the pharynx is to share in this inflammation secondarily by continuity.

McBride, in the discussion just referred to, laid down a rule which in our judgment states the only true course to pursue, when he says: "In affections of the anterior nares and pharynx let operative treatment be employed only when it is indicated on rhinological and laryngological grounds apart from the aural disease." This is far more correct than to advise a decision to be made according to whether the lesion is gross or small, for this is often a matter of personal opinion. As Spicer says: "In many very obstructed nares there are absolutely no 'gross nasal lesions.' A high degree of stenosis may often be due to several factors trifling in themselves but producing by summation a gross effect. Thus stunting of the nasal framework, œdema, etc., might involve the nostrils and degrees form a high degree of nasal obstruction."

An operation upon the nose which, according to McBride, would include especially removal of posterior enlargements of the inferior turbinates, could, under such circumstances, be advised very honestly and reasonably, if not to remove old ankyloses, at least to prevent further advance of the disease by doing away with an important contributory cause which is responsible in a considerable measure for the frequent colds which so often accompany the disease. A further advantage lies in enabling us to devote us to the positive direct battle to be fought from such structures as are caused by Mr. Cresswell to be the cause of the obstruction of the

Eustachian tube. When inflation produces no improvement in the tube, however temporary, any operative work on the nose offers little of promise. When, however, inflation shows some benefit in a case with nasal and pharyngeal disease and a Eustachian tube more or less obstructed, there is a distinct indication for attempting to restore the mucous membrane of the nasopharynx and Eustachian tube to a healthy state by correction of the nasal disease.

But the question before us cannot be answered satisfactorily by any mere theoretical reasoning. In the last resort we necessarily turn to clinical results. With this end in view the writer asked a number of men working along these lines to give him briefly the results they had obtained. Of the many replies they were kind enough to send him, and for which he desires at this time to express his grateful acknowledgment, the majority were on the whole favorable to intranasal surgery. In a few instances; however, complete disappointment was reported. All emphasized the necessity for such work being done early in the course of the disease in order to secure beneficial results. As an exception to the general opinion expressed, the reply of Dr. George L. Richards is significant, in that he expressed himself strongly that too much importance has been attached to nasal deformity as a cause of aural catarrh; while Dr. C. G. Coakley, who has secured satisfactory results through the reduction of nasal thickenings, states that he has met with universal failure as regards the ear from any septal corrections along the line of the Asch operation owing to the inability to obtain in this way perfect nasal ventilation.

No one expressed himself so enthusiastically as Mr. Mayo Collier, who says in a recent article in the *Lancet* (October 15, 1898): "I seldom have failed, even in the most chronic and intractable cases, to attain some degree of improvement either in deafness, tinnitus, or discharge, by removing the cause of the Eustachian obstruction, i. e., by the ventilation of the nose."

Rather would Burnett⁴ represent the views of most, when he says: "In the vast majority of cases of chronic catarrh more benefit is derived from the proper treatment of the nose and nasopharynx than from direct medication of the tympanum."

Most of the replies, while valuable as representing the opinions of some of the most eminent and skillful otologists in this country, were lacking in any precise data as to the exact lesions in the nose or the results obtained. A happy exception to this was that of Dr. T. P. Behrens, who reported ten cases of chronic otitis media where the proper nasal treatment was instituted. Of these ten cases, eight patients had deformities of the septum, complicated in five instances by posterior tips; two had ethmoiditis and polypi. Of the ten patients seven were much improved in their hearing.

With a desire to determine for himself the true value of such treatment the writer some two years ago endeavored to follow a series of such cases in his hospital service. In spite of the uniform willingness of his associates in the aural department of the hospital to cooperate with him, he soon found that on account of the separation of the two depart-

⁴Quoted in *Medical Record*, 1898, p. 688.

⁵Quoted in communication to Dr. Daly, *Pittsburgh Medical Review*, 1890, p. 37.

ments it was impossible to satisfactorily accomplish this. To make the report of any value, careful functional tests before and after treatment were essential and these it was impossible to secure. We are therefore unable to make more than a provisional report. In the few fairly complete records obtained the general results showed little or no objective improvement in hearing, although in some cases the patients said they heard better. Many years ago Dr. Roosa, a recognized pioneer in otology in this country, called attention to this illogical and unnatural disassociation in our hospital clinics of specialties so closely related, and said: "The union of the practice of nasal and aural diseases is greatly to be desired. Ophthalmology and otology have been united in Ireland and the United States ever since the days of Sir William Wilde, but such a union is unnatural. Every aural specialist should be an expert in nasopharyngeal practice, and vice versa. The next generation will probably bring this to pass, and there will be no complaint that aural surgeons neglect the thorough treatment of the nose, or that rhinologists cannot always discriminate between an affection of the tympanum and one of the labyrinth."

Doubtless the present generation does show a decided advance in this respect. There are here and abroad many men skilled equally in rhinology and otology. In our humble judgment, however, there is room for great improvement. Believing fully, as we do, in the close and indissoluble association of these two specialties, it is distressing to find that the old traditions are still followed and that our special hospitals draw an arbitrary line between them in the constitution of the various departments of clinical work. One of the oldest of these hospitals has even recently abolished its throat department on the ground of lack of funds. The fine new building of a similar institution in a neighboring city does not include such a department; in still a third hospital, with which we have the honor to be connected, the aural surgeons, though fully equipped in every way to direct the nasopharyngeal treatment of their patients and though believing strongly in the importance of such treatment, are compelled to relinquish it entirely to the hands of men who, however competent they may be in their own specialty, are unacquainted with the aural side of the case. In consequence, in a majority of cases, the patient cannot but fail to be the sufferer.

Even more far reaching in its evil consequences is the effect of the separation of these two specialties upon the young specialist himself. We all recognize that in these days of rapid scientific advance clinical work is essential for even a moderate degree of proficiency in diagnosis and operative technique. To obtain this, however, he is compelled to connect himself with two different clinics at the sacrifice often of health and strength; or, as is not seldom the case, he finds he has time for only one and in consequence becomes only too soon a one sided specialist, skilled and ready perchance in rhinology but deficient in his attainments as an otologist. In all seriousness we ask of the many directors and managers of our hospitals if they can afford to allow such conditions to continue indefinitely.

While the consideration of nasal obstruction in relation to impaired hearing is the chief aim in this paper, other forms of nasal disease must not be

omitted as possible causes. Dr. C. C. Cobb, of Boston, some time ago called attention⁵ to the frequency with which disease of the accessory sinuses was associated with otitis media nonsuppurativa. He claims that by the treatment of the sinusitis he cures the resulting nasopharyngitis and relieves the otitis, if not too chronic. He, however, regards nasal obstruction as the chief cause of the sinusitis.

Ozena is undoubtedly accountable in the same way for a chronic nasopharyngitis, especially when it is dependent on sinus disease. Aside from impaired hearing, tinnitus and vertigo enter as occasional or constant symptoms of chronic hypertrophic otitis, and the hope of relief for them through nasal treatment, especially tinnitus, is even greater than for impaired hearing. Indeed the literature is full of such reports. Behrens, of Minneapolis, has recently in a paper bearing on this subject⁶ reported a number of cases of tinnitus cured by cauterization of the middle turbinal; and Fitzgerald, of Hartford, reports numerous successes by securing proper nasal breathing. Within a few weeks the writer has seen a young girl suffering from chronic otitis media with tinnitus, who was referred to him by Dr. Haskin for her throat trouble, where neither removal of the adenoid tissue nor the hypertrophied faucial tonsil gave more than a slight improvement; but the removal of a moderate sized posterior tip on the side of the tinnitus caused almost a complete cure.

As regards vertigo of nasal origin, a striking example is seen in a patient at the present time under the care of the writer. She is a woman of forty-five who in connection with an acute suppuration of both ears was seized with sudden deafness and tinnitus. All purely aural treatment failed to give any improvement to either symptom, but relief was experienced immediately after operation on a long standing double sided ethmoiditis associated with polypi.

CONCLUSIONS.

To recapitulate, I desire to advance the following conclusions:

1. The nose plays an important rôle as a causative factor in many cases of otitis media, but by no means in all such cases.
2. That the lesion in the nose is usually of an obstructive nature, acting as an obstacle to proper ventilation of the middle ear.
3. That in beginning cases of hypertrophic otitis media a certain amount of improvement in the hearing can be confidently expected by restoring proper ventilation of that cavity through measures addressed to the nose, with the aim of relieving nasopharyngeal and tubal inflammation; but that (a) yet only such cases of the disease call for nasal treatment as show pathological changes in the throat themselves demanding attention apart from the condition of the ear; (b) that it is important to determine the true nature of the process in the middle ear, as the sclerotic or so called hyperplastic form is not influenced at all by such treatment; and (c) that adhesive changes and ankyloses cannot be expected to yield, however completely the nasal obstruction is removed. In a word, that while suitable cases are capable of being helped, many cases of chronic otitis media associated with certain nasal obstructions do not call for and will not be improved

⁵ *Archives of Otolaryngology*, XXV, 1900.
⁶ *Observations on Catarrh and Predisposition of Reflex versus Catarrh Theory. Laryngoscope*, September, 1905.

to some degree of renal impairment, and that all such treatment is thus somewhat questionable and unwarranted.

4. This an impression would be lessened by treatment in the relief afforded from the repeated attacks of acute renal colic, and by their effects on the circulation, and on the general condition of the patient.

5. Headache, vomiting and vertigo are at times associated with renal colic.

And finally, the importance of the importance of the condition to the general health, and a closer association of the condition with the general health, is a point of view.

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THE INFLUENCE OF CERTAIN ANTIPYRETIC DRUGS ON METABOLISM.

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The reason for the investigation of the action of these drugs on metabolism is two fold. In the first place, there has been some discussion in this direction, and secondly, the results obtained by the few experiments who have studied this subject have been so dissimilar, that the literature on this topic makes a most confusing chapter in experimental pharmacology.

Having stated the reason for the selection of these drugs, a few words upon the conditions under which the experiments were conducted may be admitted in this place. It was soon realized that in order to draw any justifiable conclusions, it was important to obtain similar conditions for each and every one of the experiments.

Being particularly interested in the uric acid and nitrogen metabolism, it was decided to adopt a purin free diet. This purin free diet served a double purpose, it was a standard diet during the entire course of the experiments, and at the same time served to bring out the effect of these drugs on the purin metabolism. The diet was all the more striking and effective as this diet did away with uric acid, and the results obtained represented the uric acid that was actually produced in the body.

The diet here referred to consisted approximately as follows: During the 24 hours: 500 c.c. milk, 100 c.c. water, 100 c.c. coffee, 20 g. bread, 20 g. butter, 20 g. sugar.

The diet was continued every day for twenty-four hours. The experiments were divided into seven periods of three days each, thus giving three days of rest between each experiment. Two experiments were conducted by the method of simultaneous administration of the drug and the diet. The results of the experiments on the purin metabolism could be observed.

It was found that in obtaining a reliable twenty-four hour specimen of urine from outside parties, the experiments were performed on myself. In this way it was possible to be positive that the purin free diet was actually followed.

At the end of each period the following constituents were estimated: (1) Nitrogen in the blood serum, (2) uric acid, (3) purin bases, (4)

ammonia, and number of grains. The reason for determining all these, was that we wanted to see in which of these constituents the increase or decrease took place.

The technique employed in these estimations was as follows: Total nitrogen was estimated by the Kjeldal method using 5 c.c. urine. Duplicates were made in every case. The urea was determined by the Morner-Ljquist method; here, too, duplicates were made, using in each case 5 c.c. urine just as previously. Duplicate ammonia estimations were made according to the Schäfer method, using 50 c.c. urine. Uric acid and xanthin bases were made according to the Salkowski method. Here we used 400 c.c. urine every day. Large quantities of urine were used in order to obtain more complete results, since duplicate estimations were not made in the case of uric acid and xanthin bodies.

I began the experiments by analyzing my own urine while I remained on a regular unrestricted diet in order to establish an average of nitrogenous excrements. I then began the purin free diet. For the first three days no drug was ingested, for the three following days 30 grains sodium salicylate were taken each day, then followed an interval of three days during which time no drug was taken, and then again I began to take a drug, this time 25 grains of quinine sulphate for three days. After another period of rest for three days, I began to study the effects of acetanilid, taking 24 grains each day; the following three days I took no drug but kept on examining the urine just as before.

Before tabulating the results of these experiments, a review of the recent literature on this subject may not be out of place to see wherein the results here obtained agree, and where they differ from those found by previous investigators.

Sodium Salicylate.—The first experimenter of this substance was Wolfsohn¹ who made six experiments on dogs. In two of these he found a marked decrease of nitrogen at the beginning, which was shortly followed by an increase in the elimination of this product. In four other experiments he found that following the use of the salicylates there was an increase in the nitrogen elimination from the beginning.

Salomé in personal experimentation found that following small doses of sodium salicylate there was no increase in either the urea or uric acid excretion, but following large doses, there was a decided increase.

Virchow² in a series of experiments on dogs also found an increase in the nitrogen following the ingestion of large doses of sodium salicylate.

Finally Kumagawa³ in his experiments on normal dogs came to the conclusion that in normal individuals the taking of the salicylates is followed by an increase of the total nitrogen up to 13-21 per cent., and an increase in the uric acid of from 31-74 per cent.

Quinine.—As for the action of quinine on metabolism at least three diverging opinions have been expressed by different observers. (1) Those who think that it increases metabolism; (2) those who say it has no action whatsoever; (3) those who think it decreases the nitrogen metabolism.

¹ *Arch. Intern. Med.*, 1900, vi, p. 78.
² *Arch. Intern. Med.*, 1900, vi, p. 184.
³ *Arch. Intern. Med.*, 1900, vi, p. 184.

In the first class are such men as Hammond⁴ who, experimenting on himself, obtained an increase in the urea output of 12-17 per cent. So, likewise, Oppenheim⁵, 1880, following the same line of experimentation, noticed an increase in the nitrogen elimination. Thus after a dose of 2 grammes of quinine he obtained an increase of 4 grammes of urea. Jansen⁶, experimenting on healthy fowls, obtained an increase in the uric acid excretion, and finally Bauer and Künstler⁷, in experiments on a typhoid patient, found a regular increase in the nitrogen elimination.

In the second class we have Koster and Bocker⁸ who, in a series of experiments, came to the conclusion that quinine had no action at all on the normal individual.

The greater number of investigators belong in the third group. Thus Kerner, 1870, found a marked decrease in urea and uric acid. Binz⁹, 1875, in experiments on normal individuals (man, dog, cat), showed there was in each instance a decrease in metabolism, and at this time suggested that it

acid, in health. Kumagawa¹⁴, who likewise investigated this drug, came to the conclusions: (1) Acetanilide, on normal dogs, in small doses of 1-2 grammes, does not increase the nitrogen metabolism, but in larger doses, 4-5 grammes per day, it causes a marked increase 30-78 per cent. above the normal; (2) after withdrawal of the drug the excessive metabolism which it produced is well compensated for by a decrease in the nitrogen elimination.

Having noted the results of the different experimenters concerning the action of these respective drugs on metabolism, let us see what conclusions we can draw from our own experiments. We will first tabulate the results obtained each day, then take an average for every three days of experimentation and thus get results obtained in each period.

From the foregoing tables it may be seen that the results obtained differ in many respects from those previously noted. Thus for sodium salicylate we did not get as high an increase in the total nitrogen

TABLE I: EACH DAY

	Quantity.	Sp. Gr.	Reaction.	Total N.	Urea.	Uric Acid.	Purin Bases	NH ₃
Regular Diet	840	1028	Acid	9.36g	N = 24.01g U = 19.30	N = 0.161g U = 0.482	N = 0.017g Pu = 0.042	N = 0.022g NH ₃ = 0.028
Purin Free Diet 1st day	800	1034	Acid	13.48	N = 12.25 U = 26.21	N = 0.091 U = 0.273	N = 0.013 Pu = 0.031	N = 0.012 NH ₃ = 0.036
" " 2d day	790	1033	Acid	13.76	N = 12.76 U = 27.35	N = 0.079 U = 0.236	N = 0.007 Pu = 0.021	N = 0.013 NH ₃ = 0.016
" " 3d day	850	1034	Acid	12.89	N = 12.01 U = 25.73	N = 0.101 U = 0.303	N = 0.006 Pu = 0.017	N = 0.011 NH ₃ = 0.013
30 gr. Sod. Salicylate	830	1035	Acid	14.12	N = 13.05 U = 27.96	N = 0.088 U = 0.264	N = 0.009 Pu = 0.024	N = 0.102 NH ₃ = 0.124
30 gr. " 2d day	870	1034	Acid	14.81	N = 12.99 U = 27.85	N = 0.079 U = 0.237	N = 0.008 Pu = 0.023	N = 0.025 NH ₃ = 0.031
30 gr. " 3d day	850	1032	Acid	15.97	N = 14.10 U = 30.22	N = 0.068 U = 0.266	N = 0.015 Pu = 0.042	N = 0.069 NH ₃ = 0.084
No. Drug 1st day	900	1033	Acid	13.62	N = 11.96 U = 25.65	N = 0.072 U = 0.217	N = 0.009 Pu = 0.025	N = 0.017 NH ₃ = 0.021
" " 2d day	800	1034	Acid	12.57	N = 10.95 U = 23.47	N = 0.061 U = 0.182	N = 0.006 Pu = 0.019	N = 0.023 NH ₃ = 0.28
" " 3d day	940	1031	Acid	12.97	N = 12.77 U = 27.40	N = 0.046 U = 0.148	N = 0.009 Pu = 0.027	N = 0.055 NH ₃ = 0.066
25 gr. Quinine 1st day	890	1031	Acid	10.68	N = 9.29 U = 19.54	N = 0.026 U = 0.078	N = 0.005 Pu = 0.015	N = 0.025 NH ₃ = 0.029
25 gr. " 2d day	1050	1020	Acid	11.25	N = 9.51 U = 26.48	N = 0.044 U = 0.132	N = 0.005 Pu = 0.014	N = 0.069 NH ₃ = 0.081
25 gr. " 3d day	840	1025	Acid	10.39	N = 9.28 U = 19.53	N = 0.023 U = 0.069	N = 0.005 Pu = 0.014	N = 0.062 NH ₃ = 0.076

was this action of quinine which explained its efficiency as an antipyretic. Prior¹⁰, 1884, and Kumagawa¹¹, 1888, in a series of experiments on healthy dogs, came to the conclusion that quinine undoubtedly lowered metabolism. Kumagawa found the total nitrogen decreased 8-16 per cent. and also that the uric acid decreased 13-50 per cent.

Acetanilide.—Not nearly as much work has been done on this drug as on the preceding ones. The following are the views held by some of the experimenters concerning its action.

Hobaczewsky¹² states that acetanilide in large doses increases the uric acid elimination as well as that of the total nitrogen. On the other hand, Tanszk and Vas¹³ state that it has no effect on uric

as was obtained by Kumagawa. The latter found an increase in the total nitrogen of 13-21 per cent. while we only found an increase of 9-16 per cent. Kumagawa found an increase in uric acid 31-74 per cent. while we obtained no increase; in fact a slight diminution. Wolfsohn found a decrease in the nitrogen elimination at the beginning which was soon followed by an increase, while we obtained an increase from the onset.

So, also, in the case of quinine, we obtained total nitrogen decreased, 13-19 per cent.; urea, decreased, 22-28 per cent.; uric acid, decreased, 40-50 per cent.; purin bases, decreased, 40-50 per cent.

These results differ from those of Hammond and Oppenheim who found an increase in urea 12-17 per cent.; from Jansen who found an increase in uric acid; from Kumagawa who found total nitrogen, not as greatly decreased, only 8-10 per cent. In the case of uric acid, however, the results about agree. He found a decrease in uric acid of 13-50 per cent., and we found a decrease of 40-50 per cent.

⁴ Hammond, *Medizinische Zeitschrift*, No. 37, 1859.

⁵ Oppenheim, *Pflüger's Archiv*, Ch. xxiii, S. 446.

⁶ Jansen, *Indag. Dissertation*.

⁷ Bauer and Künstler, *Deutsches Archiv für klinische Medizin*,

xxiv.

⁸ Koster and Bocker, *Schmidt's Jahrbücher*, 1860.

⁹ Binz, *Virchow's Archiv*, 46, p. 67; *Archiv für experimentelle*

Pathologie, I, p. 18.

¹⁰ Prior, *Pflüger's Archiv*, xxxiv, p. 237.

¹¹ Kumagawa, *Virchow's Archiv*, cxlii, p. 134.

¹² Hobaczewski, *Monatsschrift für Chemie*, xli, p. 221.

¹³ Panszk and Vas, *Ungarisches Archiv für Medizin*, I, p. 204.

¹⁴ Kumagawa, *Virchow's Archiv*, cxlii, p. 134.

In the last of acetanilide (acetanilid), total nitrogen increased 14.04 per cent; urea, increased, 19.35 per cent; uric acid, increased, 12.44 per cent. These results agree rather well with the previous findings. First, Farnham and Van observed no effect on the urea while we found an increase of 12.44 per cent. As compared from the total nitrogen increased 14.04 per cent, but we only found an increase of 14.44 per cent. One observation as to the after effects of acetanilide were similar to those of salicylic acid, we also found the metabolism decreased after ceasing the administration of acetanilid.

Summary.—The conclusions we can draw from these experiments are as follows:

1.—Quinine decreases the total nitrogen 0.45 per cent.

2.—Quinine decreases urethane urea, 8.18 per cent.

up for this decrease, because if we look at table I we find that in the last day of quinine the total nitrogen was 10.39, urea, 19.53, ammonia, 0.076, uric acid, 0.009, and xanthin, 0.014. After the quinine was stopped we find that the total nitrogen rose to 14.53 and all the other nitrogenous constituents were increased proportionally, much higher than on any day in which no drug was taken. In fact we only find this on the first day of "rest," because on the day following it goes down to 12.49.

(C) 1—Acetanilide increases total nitrogen 14.21 per cent.

2—Acetanilide increases urea 19.35 per cent.

3—Acetanilide increases uric acid 12.44 per cent.

4—Acetanilide greatly increases the ammonia.

5—The increase begins at once with the administration.

6—This increase gives way to a decrease in the

TABLE I.—Continued.

Quantity	Days	Acetanilid	Total N	Urea	Uric Acid	Purin Bases	NH ₃
50 mgm. 10 days	10	1000	Acid	13.10	N = 0.009	N = 0.009	N = 0.878
100 mgm. 10 days	10	1000	Acid	26.81	Pu = 0.008	Pu = 0.008	NH ₃ = 0.459
150 mgm. 10 days	10	1000	Acid	11.40	N = 0.007	N = 0.007	NH ₃ = 0.085
200 mgm. 10 days	10	1000	Acid	10.12	Pu = 0.007	Pu = 0.007	NH ₃ = 0.078
250 mgm. 10 days	10	1000	Acid	11.08	N = 0.006	N = 0.006	NH ₃ = 0.074
300 mgm. 10 days	10	1000	Acid	13.14	Pu = 0.005	Pu = 0.005	NH ₃ = 0.089
350 mgm. 10 days	10	1000	Acid	13.08	N = 0.006	N = 0.006	NH ₃ = 0.094
400 mgm. 10 days	10	1000	Acid	13.08	Pu = 0.005	Pu = 0.005	NH ₃ = 0.491
450 mgm. 10 days	10	1000	Acid	13.08	N = 0.006	N = 0.006	NH ₃ = 0.491
500 mgm. 10 days	10	1000	Acid	13.08	Pu = 0.005	Pu = 0.005	NH ₃ = 0.491
550 mgm. 10 days	10	1000	Acid	13.08	N = 0.006	N = 0.006	NH ₃ = 0.491
600 mgm. 10 days	10	1000	Acid	13.08	Pu = 0.005	Pu = 0.005	NH ₃ = 0.491
650 mgm. 10 days	10	1000	Acid	13.08	N = 0.006	N = 0.006	NH ₃ = 0.491
700 mgm. 10 days	10	1000	Acid	13.08	Pu = 0.005	Pu = 0.005	NH ₃ = 0.491
750 mgm. 10 days	10	1000	Acid	13.08	N = 0.006	N = 0.006	NH ₃ = 0.491
800 mgm. 10 days	10	1000	Acid	13.08	Pu = 0.005	Pu = 0.005	NH ₃ = 0.491
850 mgm. 10 days	10	1000	Acid	13.08	N = 0.006	N = 0.006	NH ₃ = 0.491
900 mgm. 10 days	10	1000	Acid	13.08	Pu = 0.005	Pu = 0.005	NH ₃ = 0.491
950 mgm. 10 days	10	1000	Acid	13.08	N = 0.006	N = 0.006	NH ₃ = 0.491
1000 mgm. 10 days	10	1000	Acid	13.08	Pu = 0.005	Pu = 0.005	NH ₃ = 0.491

TABLE II.—Quinine Administered in Five Periods.

Quantity	Days	Quinine	Total N	Urea	Uric Acid	Purin Bases	NH ₃
50 mgm. 10 days	10	1000	Acid	13.10	N = 0.009	N = 0.009	NH ₃ = 0.878
100 mgm. 10 days	10	1000	Acid	26.81	Pu = 0.008	Pu = 0.008	NH ₃ = 0.459
150 mgm. 10 days	10	1000	Acid	11.40	N = 0.007	N = 0.007	NH ₃ = 0.085
200 mgm. 10 days	10	1000	Acid	10.12	Pu = 0.007	Pu = 0.007	NH ₃ = 0.078
250 mgm. 10 days	10	1000	Acid	11.08	N = 0.006	N = 0.006	NH ₃ = 0.074
300 mgm. 10 days	10	1000	Acid	13.14	Pu = 0.005	Pu = 0.005	NH ₃ = 0.089
350 mgm. 10 days	10	1000	Acid	13.08	N = 0.006	N = 0.006	NH ₃ = 0.094
400 mgm. 10 days	10	1000	Acid	13.08	Pu = 0.005	Pu = 0.005	NH ₃ = 0.491
450 mgm. 10 days	10	1000	Acid	13.08	N = 0.006	N = 0.006	NH ₃ = 0.491
500 mgm. 10 days	10	1000	Acid	13.08	Pu = 0.005	Pu = 0.005	NH ₃ = 0.491
550 mgm. 10 days	10	1000	Acid	13.08	N = 0.006	N = 0.006	NH ₃ = 0.491
600 mgm. 10 days	10	1000	Acid	13.08	Pu = 0.005	Pu = 0.005	NH ₃ = 0.491
650 mgm. 10 days	10	1000	Acid	13.08	N = 0.006	N = 0.006	NH ₃ = 0.491
700 mgm. 10 days	10	1000	Acid	13.08	Pu = 0.005	Pu = 0.005	NH ₃ = 0.491
750 mgm. 10 days	10	1000	Acid	13.08	N = 0.006	N = 0.006	NH ₃ = 0.491
800 mgm. 10 days	10	1000	Acid	13.08	Pu = 0.005	Pu = 0.005	NH ₃ = 0.491
850 mgm. 10 days	10	1000	Acid	13.08	N = 0.006	N = 0.006	NH ₃ = 0.491
900 mgm. 10 days	10	1000	Acid	13.08	Pu = 0.005	Pu = 0.005	NH ₃ = 0.491
950 mgm. 10 days	10	1000	Acid	13.08	N = 0.006	N = 0.006	NH ₃ = 0.491
1000 mgm. 10 days	10	1000	Acid	13.08	Pu = 0.005	Pu = 0.005	NH ₃ = 0.491

1.—Quinine with acid building bases are not increased.

2.—The ammonia seems to be greatly increased.

3.—The increase in the total nitrogen begins at

6.—Its effect stops with the ceasing of its in-

1.—Quinine decreases the total nitrogen,

2.—Quinine decreases the total urea, 22-28 per

3.—Quinine decreases the total uric acid, 40-50

4.—Quinine decreases the total purin bases, 40-50

5.—Quinine increases slightly the ammonia elim-

6.—The decrease in the nitrogen takes place at

7.—The decrease stops as soon as the drug is dis-

8.—The same is probably the response to make

nitrogen metabolism as soon as the drug is discontinued.

In conclusion, I should like to express my appreciation for the kind assistance rendered by Professor Mandel throughout the entire time of experimentation.

350 EAST SEVENTY-EIGHTH STREET.

REPORT OF TWO CASES OF POST PARTUM ECLAMPSIA DUE TO DIABETES.*

By J. J. JENKINSON, M. D.

NEW YORK.

Important facts have been demonstrated for many years past, and recently much amplified, that eclamptic conditions are autointoxications induced by faulty metabolism. As far as we are aware, no new light has been thrown upon the pathology and etiology of these conditions. If preeclamptic conditions and the subsequent eclamptic seizure are due to uræmia,

*Read at the 10th Annual Meeting of the Society of Obstetricians and Gynecologists, New York, 1910.

hydræmia, amoniæmia, reflex contraction, microbic influences, or influences upon the system of some toxic material, modern scientific investigation does not permit us to state.

Most observers are agreed that the influence upon the system of some toxic material approaches the true explanation, especially the liver to be the most responsible organ of this toxæmia, and that the condition is an autointoxication of an accumulation in the blood of some toxic material, biliary, urinary, fætal, or all three, but what this material is has not up to this present time been determined. It appears probable that the condition has not one but many causes.

The following two cases I offer as a contribution toward the study of diabetes mellitus as possibly one of the causes of eclampsia. Still more interest is attached to those cases as being post partum eclampsia and one of them fatal.

CASE I.—Mrs. O., thirty-five years of age, sextipara. Her previous history I could not find out, as I was called by a midwife during labor, but I learned that she complained of some ailment years ago, and was under a physician's care for diabetes. This was a ninth month gestation. I found her with moderate pains, conscious, but with tonic convulsions, not severe in the beginning. The convulsions became severer after a while, which caused the expulsion of the fetus, and then stopped. In about an hour later I was called again, found her unconscious, with very severe convulsions, which nothing could stop, and she died about two hours later. No autopsy was allowed.

I took a specimen of her urine ante partum, and had it examined by a competent man, also examined it myself. The report was as follows: No albumin, no casts, no bacteria of any kind. Specific gravity, 1.021; percentage of urea, normal; sugar, 3.5 per cent.

CASE II.—Mrs. K., twenty-eight, secundipara. Her previous history is of no importance, except that she had cystitis before. When I was called to see her she was in the seventh month of gestation. She complained of severe headaches, her temperature 101° F., high tension pulse; she passed scanty urine, and felt pain in the right kidney region. On the next day she complained of painful and frequent micturition. The urinary examination at that time showed a trace of albumin, granular and hyaline casts, and 1.5 per cent. of sugar. A few weeks later I was called again, and found her in labor, having severe convulsions. I succeeded by accouchement forcé and forceps in extracting a live child, but the convulsions did not cease. I took a specimen of her urine for examination before delivery and the report was as follows: Albumin, one per cent.; hyaline and granular casts; specific gravity, 1.019; different kinds of bacteria, especially streptococci and colon bacilli, and three per cent. of sugar.

I offer these two cases for study. Diabetes mellitus as the cause is not known, and probably it is also a disease due to faulty metabolism. It therefore adds strength to the theory of autointoxication.

161 HENRY STREET.

Military Statistics of Typhoid.—In the discussion of comparisons, Simonin (in *Le Caducée*) cites the results from civil hospitals in Europe and London, in the mortality of typhoid, from 1901 to 1904. In four instances, the French civil hospitals show 18 per cent., the London civil hospitals 18.5 per cent., the Vienna 18.5 to 22.2 per cent., and the Leipzig 12.7 to 18.5 per cent. These figures show a marked contrast to the statistics from military hospitals.—Through *Journal of the Association of Military Surgeons*.

Our Readers' Discussions.

A SERIES OF PRIZE ESSAYS.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

XLVIII.—How do you treat pruritus ani? (Closed March 15, 1906.)

XLIX.—How do you treat lumbago? (Answers due not later than April 16, 1906.)

L.—What is the best form of shack or tent for tuberculous persons? (Answers due not later than May 15, 1906.)

Whoever answers one of these questions in the manner most satisfactory to the editors and their advisors will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable, no one answer to contain more than six hundred words.

All persons will be entitled to compete under the regulations laid down by the postal authorities. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL.

The prize of \$25 for the best essay submitted in answer to question XLVII has been awarded to Dr. William G. Young, of Washington, whose article appeared on page 713.

PRIZE QUESTION NO. XLVII.

THE TREATMENT OF WHOOPING COUGH.

(Concluded from page 716.)

Dr. R. E. LeFevre, of Reading, Pa., says:

The treatment of whooping cough may properly be divided into these measures, viz.: prophylactic, hygienic, and medicinal.

Prophylaxis.—Whooping cough being a highly contagious disease, spreads by contagium in the great majority of cases, and only rarely miasmatically, the first essential in treatment is prophylactic.

The avoidance of contact with whooping cough patients is very important. It is sometimes deemed wise by physician and parents during mild epidemics not to isolate children too carefully, especially if any one member of the family has already been attacked with the disease, so that they may be immune to a future, and maybe more severe outbreak. Still, this should not apply to very young children, under four years, or children of consumptive parents, or scrofulous, or rachitic children.

Children should be protected from taking colds as much as possible, since this predisposes the child during epidemics.

Preventive measures have failed so far, no adjunct having proved of value, if one is obliged to remain within the limit of an epidemic and of the contagium.

Hygiene.—Cleanliness and refinement are essentials in this disease. Great care should be exercised in taking proper precautions with the sputa and excretions in general. Schools, kindergartens, and play grounds of children should be properly fumigated and disinfected in severe epidemics.

The diet should be one easily digested and assimilated. Proper clothes should be put on children, and

an abdominal binder or waist support, as a precaution against hernia during the postoperative stage. (Do not reposition yourself and rise for the patient suddenly.)

It is important to remember that if the weather is moderately warm and moist, there is no need to spray. It is usually after the weather becomes hot and dry that I should be worried about the possibility of a heavy infestation.

There should be no change in the law, there are no suggestions to amend, alter, or modify it in the least. All the physicians who should have been subpoenaed for this hearing, but possibly omitted, acknowledge that all others, viz. quinine, kermesine, arsenic, and strychnine.

During the convalescent period and during the continuance of the disease the following prescription:

very efficacious, and is, in my opinion, the best. The dose may be given from two to four years of age, and may be given with asserted success in

Ir belladonna. m. xlviii :

When paroxysms are so severe and frequent as to interfere with the patient's sleep, or in some form, or those which may prove artificial, such as hypnosis, etc. These should be resorted to when highly necessary, and

Cresote I have administered with success by inhaling the vapor over an alcohol lamp. It allays the irritation of the mucous membrane of the trachea, and the possibility of absorption should not be forgotten, and the urine care-

For drugs used for this disease, but space does not permit of giving them I would be only confusing. It as stated has given me of course modified as indi-

In summary, although enough we are dealing with a somewhat long duration, highly infectious, apt to develop systemic manifestations, and to be accompanied by various complications or sequelae. Therefore, within a community, we must take great care, attention to the general, hygienic, and health measures, through the kind of drug treatment.

contact with other persons as much as possible. Even separate dishes are advisable. All expectoration and vomitus should be disinfected and destroyed. The rooms occupied by the children should always be thoroughly aired, perhaps occasionally disinfected. Rest in bed is not essential, except when the child is weak or has some fever. Otherwise, he should be out in the fresh air every day. Too much stress cannot possibly be laid on the importance of fresh air, day and night. The windows should be wide open at night.

A change of air has often been of benefit. Places like Lakewood, etc., may be recommended; but of course we must not imperil the health of other children at hotels, boarding houses, etc. A sojourn at the sea shore or a sea voyage often does considerable good. Any place where the child can constantly breathe the pure fresh air will be apt to be good. Some physicians have tried some inhalations.

The child should be carefully fed on easily digestible food. Very young children should have their milk well diluted, and if there is much vomiting, I often peptonize it. Older children should be given mainly fluids. Vomiting may be a distressing factor. If it is frequent, feedings may have to be often repeated. When the child is weak from insufficient food, I sometimes give alcohol, well diluted, or other stimulants. For the vomiting I often give the sodium sulphocarbonate gr. v. three times a day for a child from four to six years old. In some cases, Kilmer's elastic abdominal belt, or any other abdominal bandage, will relieve the vomiting. The bowels should be kept freely open. An occasional large dose of castor oil will do good.

If they can be digested, fats should be taken, especially butter and cod liver oil. With this oil, creosote, or creosote carbonate, or syrup of iron iodide may be combined, always watching for the effect on the stomach.

(3) *Local Treatment.*—I do not use sprays much. Cocaine should not be used in small children. *β* eucaine or ethyl chloride is used by some. Inhalations of creosote I have often found useful. Catarrhs of the nose, mouth, and pharynx should be treated locally, or by internal use of potassium chlorate.

Drug Treatment. The number of drugs recommended against whooping cough is legion. I have obtained best results from belladonna, bromoform, and quinine. Drugs do not generally affect the duration of the disease, but they may diminish the frequency or the severity of the attacks, and careful management may prevent complications. If these arise, they must be appropriately treated.

Dr. Lyman B. McCrary, of Woodbury, Tenn.,

In the incipency of an attack of whooping cough, if the patient has much fever he should be confined to the bed, and a purgative of castor oil given and repeated as often as future conditions may require. As soon as the fever subsides the patient should be permitted to remain in the open air during the day, and if living in a city or large town he should be removed to the country so that he may be as far away from the dust and smoke of such places as possible. In so doing, the possibility of bronchitis

and pneumonia will be materially reduced. The nursery should be well ventilated at all times.

The patient should be well supported with suitable food in every stage of the disease. As there are no specifics in this disease, a multiplicity of drugs have been prescribed to cut short the duration of the disease, and also to moderate and control the cough. With a few of these drugs the latter object has been in some degree attained. The writer has had more success in controlling the cough with sodium bromide and chloral hydrate than with other remedies. The dose of each prescribed varies according to the age of the patient, and is to be repeated every four to six hours as conditions demand. Besides these drugs antipyrine gives more relief than all others, and if complications of bronchitis and pneumonia appear it is of the greatest value. Therefore it should be given during convalescence, as that stage carries with it the greatest possibility of complications.

In weak and delicate patients tonics should be given such as strychnine and quinine until the health has been fully restored. It is proper to state that whooping cough is not fatal in this climate and more especially in country districts as it is in cities and large towns; and the writer has not had but two or three fatalities during more than forty years.

Dr. John H. Bailey, of New York, remarks:

The rational treatment of whooping cough is greatly handicapped by the following reasons: (1) An obscure pathogenesis—how the paroxysm, the most characteristic and the most troublesome feature of the disease, is brought about, is hardly more than conjectural. (2) Although a bacterial origin is universally acknowledged, there is much variance of opinion as to the specific materies morbi. (3) Outside of an ordinary catarrh involving various portions of the upper respiratory tract, we have thus far been unable to determine any distinct pathology.

The endeavors of the future must be directed toward discovering a serum, or some other agent with properties that are antagonistic to the growth and life of the causative factors of the disease, or that neutralize their products, like quinine in malaria or diphtheria antitoxine in diphtheria. For the present we must be content with treating the cases symptomatically and employing general measures.

Prophylaxis occupies first place in the therapeutics of the disease. The disease is highly contagious, the contagious element leaving the body probably only during coughing or during some other expulsive respiratory act. Exposure to the disease must be carefully avoided, especial precautions against this being taken with young infants, in whom the disease is of serious import. Not only must those susceptible to the disease eschew the society of one suffering from whooping cough, but they should also be kept away from his habitation, particularly the sleeping room; for it is highly probable that the microorganism is present in greater or less concentration in the air of the patient's apartments. Whenever possible, the other children in the family who are not immune, and who are not yet infected, should be sent away. Under prophylaxis might be included reinfection. It is quite possible that children are sometimes reinfected from themselves, thus tending to prolong or aggravate the disease. This may be guarded against

by destroying or removing the sputum, whenever expectorated, and by occasional fumigation of the rooms with all their contents with, preferably, formaldehyde. The patient should occupy a different bedroom from time to time, and have it frequently aired.

Next in importance to prevention is the adoption of such measures as will increase the body resistance, for, with the patient in good general health, the disease is likely to be less hazardous, and the chances of complications, *ceteris paribus*, reduced. Abundance of sunlight and plenty of fresh, wholesome air should be supplied. The subject should, accordingly, be kept in the open air as much as possible, providing the weather is not inclement, rainy, windy, or raw. In cold weather he should be warmly dressed. Very young infants during the winter months, as also older children with a complication of the respiratory tract, are better kept in doors. Those whom it is necessary to keep in doors should receive a sufficient amount of pure air by any of the various methods of proper ventilation. The sleeping room should be large, plainly furnished, of a southern exposure, and adequately ventilated, both by day and night. Children with whooping cough do well in a warm, moist climate, and, if circumstances will allow, they should be sent to such a place, especially in winter. At home, the atmosphere may be rendered moist by ordinary steam from a kettle, or the air may be in addition charged with some antiseptic vapor, like creosote vapor.

Meals and sleep must be regular. The child should be carefully fed, receiving a nutritious and adequate diet. Due attention should be paid to the prevention of abdominal distension, of overloading the stomach, or impairing the digestion; and when these are present, early treatment should be instituted. I advise abundance of plain sterilized water (not enough to interfere with digestion) in the belief that the system is by this means rid of much noxious matter, whether formed by the body itself, or by the *materia morbi*. The emunctories should be kept in good order.

The nervous system doubtless plays an important rôle in the causation of the paroxysm. The patient should be made, accordingly, to lead a calm, regular, and equable life, avoiding everything of an exciting, irritating, or emotional nature, or anything, be it mental or physical, that may render the nervous equilibrium less stable. A warm bath at night and occasionally during the day, I consider of value in soothing the nervous system, promoting sleep, and causing a general relaxation.

Tonics and roborants when well borne may be exhibited with advantage during some period of the disease, my favorites being cod liver oil, iron, and quinine.

Young infants should receive no medicine, except it be inhalations. During a severe paroxysm, however, with much cyanosis, a little chloroform on a handkerchief may be given. Some authorities advise applications to the larynx, pharynx, and even the nose. The substances most used for this purpose are cocaine, weak solutions of carbolic acid, and the bromides. Cocaine is not free from danger.

Many drugs are recommended for reducing the number and severity of the paroxysms, the most popular being bromoform, belladonna, quinine, and

erty is the obstacle to send away the patient into the country, rich in fir-tree forests, or to the sand hills, warm from the rays of the sun, where the child is compelled to walk barefooted, or to the moist air of the coast, then prescribing as stated, and teaching the mother of the patient or his attendants to keep the windows open in the sickroom day and night, to give the little sufferer the opportunity to breathe fresh air, will be our only help.

Dr. Adolf Decker, of Chicago, writes:

The main object of the physician must be to stop the coughing attacks or at least to lessen their severity. For this reason it is advisable even in the beginning when an exact diagnosis is impossible, after the medicines for an ordinary cough have been unsuccessful, at once to start with the treatment, as it is most effectual in the early stages and may often abort the course of the disease.

The best remedy is naphthalin. About half an ounce of naphthalin is put into a saucer and slowly heated by means of a small alcohol lamp, gas or kerosene may just as well be used, but care must be taken that the flame does not reach the powder itself. In about ten or fifteen minutes a white vapor is produced which, when inhaled, lessens the severity and the number of the attacks, and in some cases prevents them altogether for many hours. The patient must not be brought near the naphthalin, it is sufficient that he is in the same room. One or two applications in twenty-four hours will generally suffice.

As an adjuvant a mixture containing belladonna and antipyrine is given internally. At the same time a bandage is put around the lower part of the chest as tight as the patient can stand it, but not so tight that it would interfere with the breathing.

These three measures in combination, any one of which alone will very seldom fail to have a beneficial influence, will benefit and cure almost every case in a much shorter time, and will make the patient much more comfortable. In those rare cases in which naphthalin does not cause a betterment after a few applications it may be replaced by inhalations of some other antiseptic. Complications are treated as they arise.

The general health of the patient must be looked to and a rational diet prescribed. But it is criminal to advise change of air, on account of the contagiousness and the grave nature of this disease.

The Value of Current Medical Literature.—Dr. Louis Faugeres Bishop, in a recent issue of the *St. Louis Medical Review*, says that current medical literature is a great court in which the medical editor is the judge, deciding what matter should be admitted in evidence. The writers represent the lawyers who present numberless briefs on every possible kind of a case. The readers and the great mass of the profession are the jury, who finally decide upon the merits of the arguments produced. Now, the lawyer in presenting a brief or a physician in writing an article is very much in the same position. It is necessary that the matter should be presented in a persuasive and somewhat dogmatic manner, because that has become a custom and the writer whose mind is too judicial can hardly get an audience. The jury, leaving out the ignorant and the young, are experienced with pleaders and quickly differentiate the false from the true, and are quick to recognize any truth, however slight, that bears the stamp of being the result of actual observation.

Therapeutical Notes.

Sodium Salicylate Mixture for Acute Rheumatism:

R. Sodii salicylati, 60 grammes, or 5ss.;
Syrup auranti rubri, 500 cc., or 15ss.;
Spt. vini gallici, 200 cc., or 15ss.;
Tinct. aurantii, 75 c.c., or 3iiss;
Aqua, 100 c.c., or 3oz.;
Ext. opii, 0.60 grammes, or 15.
M. Each table-spoonful contains one gramme of salicylate and one centigram of extract of opium.

Le Prescrip. medical.

Treatment of Simple Warts by Internal Remedies.—Arthur Hall, of Sheffield, England, reports (*British Journal of Dermatology*, March, 1906) a case of a girl, fourteen years of age, with numerous warts on dorsa of both wrists, hands, and fingers (367 on one hand and wrist only). Health generally good, except chronic constipation. No local treatment was given, but magnesium sulphate in solution with sulphur was given three times a day for three weeks, and then substituted by confection of sulphur and confection of senna (5j aa). As the bowels remained costive, this was changed to pills of aloin (gr. ½) with tincture of nuxvomica (gr. ¼), two of which were given every night. Under this the bowels acted well, and a week later it was observed that the warts appeared to be shrinking. After the pills had been taken regularly for one month, it was noted that the bowels were acting well and there was distinct improvement, smaller warts disappearing, the larger diminishing in size. Six weeks later she was still taking the pills every night, and the warts were all gone from the hands, although a few were still seen on the fingers. At the time the case was shown at the Sheffield Medico-Chirurgical Society only a few shrunk warts were left upon the fingers. Dr. Hall had previously reported a case of numerous simple warts on the scalp of two years' duration, which disappeared completely in two weeks while taking magnesia and sulphur.

The Free Treatment of School Children in France Suffering with Alopecia Circumscripta.—In Paris, notice has just been sent (*Bulletin municipal*, March 3, 1906) to all the directors of public and private schools, and also to the inspectors of schools, offering free treatment of alopecia by means of x rays. The statement is made that for the last two years at the Hôpital Saint-Louis, radiotherapy has been applied to all cases affected with tinea decalvans of the hairy scalp. As a result, it has been found that the treatment is shortened to about five sixths of the usual duration under classical methods. A public clinic has been therefore established at the said hospital, Mondays and Fridays, at nine o'clock in the morning. This consultation service is especially devoted to the pupils of the public and private schools. If it is found in any case that the affection of the scalp is not contagious, the child will receive a certificate indicating the proper treatment for the disease, and stating that he may be admitted to the class without danger to his companions. If on the contrary the affection is found to be contagious he is admitted to

lepsy appear. At the first these are unaccompanied by any anatomical or pathological lesion, subsequently the neuralgia undergoes hypertrophy, owing to excess of reaction, and the neurones become atrophied as the result of the intoxication and of the compression of the neuraglia. The conclusions of the author are: (1) When the epilepsy (perhaps of reflex origin) whether peripheral or central (as in Jacksonian epilepsy) appears under such conditions, it is due directly to a meningeal complication of a rhinitis, superior sinusitis, and chronic otitis, with intermittent retention of secretions. (2) The toxic microbes themselves do not pass into the cephalorrhachidian fluid in these cases, but only their toxins; therefore the meningeal complication is less severe than when due to the presence of microbes, which would cause meningitis. (3) The suppression of the formation of the toxins by operation to restore drainage brings about a reduction or suppression of the epileptic attacks. This occurs more readily in recent cases than when the disease is advanced.

The Treatment of Chronic Gout.—In an article upon the ætiology of nodular gout, Scherk, of Homburg, directs attention particularly to the chemical affinity of the tissues (in which tophi are formed) for the sodium biurate, and also to certain physical factors which determine their formation. The cartilages exert a strong attraction for gouty deposits which are found not only in the cartilages of the joints, but also in those of the ear, nose, eyelids, larynx, and in the cartilaginous rings of the bronchi. The phenomena of internal gout may be explained by the formation of nodes in special locations. The phenomena of cardiac disturbance, angina pectoris, and oppression of the chest, for instance, possibly are referable to gouty deposits upon cartilages of the ribs. An attack of dyspnoea may be followed in a few days by an outbreak of typical gout. Deposits may also take place in the urinary tubuli in the kidneys, when there is an excess of uric acid in the blood. A similar origin is shown for stones in the kidney and in the urinary bladder; and also those with nuclei of urates which occur in the gallbladder. The uniting ætiological factor between nodular gout and the formation of stone or gravel, is the inoxidizable uric acid which collects in the blood. The uratic diathesis, in other words, is the common occasion of both conditions. That we have to deal with a pathological form of uric acid is suggested by the normal excretion of uric acid; and in those cases which show no symptom of the uratic diathesis by the solid particles of this substance in the urine. In seeking a guide to the regimen for gout and lithiasis, we find the most confusing and contrary directions among the various authorities. From the standpoint of the foregoing ætiology, the recognition of a pathological ferment action and the reduced oxidation of uric acid, the indications for treatment become evident. Since every ferment in the organism has its activity defined within normal limits by the quantity and the quality of its nutriment, it is obvious that the ingestion of nuclein must be reduced as the first step. There-

fore, substances rich in nuclein, such as sweetbread, thymus glands, liver, caviar, butcher's meat, are to be avoided in the diet. The experience of every gouty subject shows that alcohol exercises an injurious influence. The cause of this action is to be sought for in the interference with the function of the nerve cells. As the normal nerve activity depends upon a sufficient supply of acid, which also favors oxidation processes, the ingestion of acid food is of the highest importance. For the same reason exercise in the open air, light gymnastics, and sleeping in rooms with open windows, are cardinal points in the treatment of the gouty. However, that very acid vegetables in renal gout must be avoided, as they injure the renal epithelium, is an old clinical observation. All kinds of radishes, celery, and asparagus are not recommended. On the other hand, it is well known that soups made with fresh vegetables are approved for gouty persons. As these plants all contain a large quantity of oxalates, a controversy arises, with some authorities, who condemn tomatoes, on account of the quantity of oxalic acid which they contain. When it is considered that the oxalic acid becomes incorporated with the organism as a strong acid, which unites with lime, and is excreted as oxalate of lime, it cannot be disputed that one element in the formation of tophi (or calculi) will be taken from union with the pathological uric acid. From this hypothetical standpoint, the vegetables containing oxalic acid (leaving out of consideration the question of oxaluria) are to be permitted in gout. The importance of mineral water cures in the treatment of the uratic diathesis is everywhere admitted. Experience leads the gouty to the baths, and preferably to the alkaline waters, the sodium sulphate waters and the sodium chloride waters. Among the dangers of the latter are intestinal complications, caused by diminution of gastric secretion and decreased secretion of bile. Iron springs are useful for the anæmic, and the diarrhoea they produce relieves the portal circulation. The precise effects of the addition of mineral water to the organism in its demands for ferment activity are not easy to estimate, but the introduction of even minimal quantities of inorganic substances into the organism may have an important bearing upon the chemico-physical action in the cell laboratories. According to recent investigations the wandering ions exercise an extraordinary influence in the excitation of the nerves, so this factor cannot be disregarded. As regards apothecary, no preparation has as yet been brought out that has any effect upon the gouty condition, although the success of thyroid extract in myxoedema gives encouragement. Ferments, however, would be likely to cause toxic symptoms. Since the deposits of urates first exert a mechanical action upon the surrounding tissues and only secondly exert chemical effects, it follows that an anaphlogistic treatment of the newly formed tophi is indicated. For local applications warm compresses are generally used. When there is acute pain, the author recommends cold in the form of ether spray, but not in the form of the ice bag or cold dressings.—*Deutsche medizinische Wochenschrift*, February 23, 1906.

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NEW YORK, SATURDAY, APRIL 16, 1921.

THE ARMY MEDICAL BILL

The House will recall that the bill to reorganize the Medical Department of the army failed to pass the Congress because, after having passed the Senate and having secured a favorable report from the Military Committee of the House, no opportunity was afforded for it to be voted on by the House. This was done in spite of the fact that the President had urged its passage in a special message, written with characteristic vigor, in which he said: "If the Medical Department is not reorganized, the Government is certainly in an administration would prevent a complete breakdown in the event of a serious war."

The Secretary of War caused the bill to be introduced again in the present Congress, it has been passed by the Senate, and it is now before the House with a favorable report from the Military Committee. The additional discussion given by the House added much to its strength in the Military Committee of the House, and their report is to a marked degree stronger and more favorable than last year, so that the only thing necessary to its passage appears to be that it should be given priority in the House of Representatives, and that body be permitted to consider it. This was well known, and matter of course with the Congress.

As the arguments in this matter appear to be settled, it is not surprising that the speaker of the House will place himself in opposition to the army authorities urging its passage, and the medical profession on the

other side, regarding with interest favorable and early action on his part, and not the profession only, but the people as well, for the country is entitled to the utmost possible in the way of preventing such a breakdown as the President foresees in the event of failure to provide for its prevention. Inefficiency in the Medical Department in time of war—and we can never tell when war is coming—means the needless sacrifice of thousands of lives.

THE TEACHING OF PATHOLOGICAL
PHYSIOLOGY.

The experimental method has added another laurel to its wreath. Changes in histological structure have heretofore occupied the chief place in the pathology of our medical colleges, while the study of alteration in function has been entirely omitted or given a very minor place. It is particularly opportune to note that Johns Hopkins has instituted a course during the past year to cover the ground of pathological physiology, and that at least one half of the new laboratory of experimental medicine is to be given up to facilities for this important branch of medical science. The aim of the course is to reproduce experimentally such diseased conditions as may be seen by the students in the hospital wards, and to further control their studies by exact morphological investigation hand in hand with the physiological experimentation.

The extent of the applicability of the work is evident and admits of expansion from year to year. During the past year experimental work on the circulatory system has been devised; next year the digestion will be studied. Only such work has been planned as may be profitably correlated with actual disease phenomena. Thus, experimental bacterial pericarditis, blood pressure alternations and their results on the character of the heart beat, heart sounds under the influence of pericardial effusions, mechanical injuries to the heart valves—these are among some of the exercises planned and successfully accomplished.

The effects of the closure of various bloodvessels are capable of class demonstration as well as the results of dilatation and contraction of capillaries in different regions. The character of the changes in the capillaries of the lungs under these experimental conditions is particularly striking. The mode of bloodvessel obliteration by ligature and the accommodative changes that take place when the blood supply is diminished and when collateral circulation is demanded are also capable of experimental analysis. A final

series of demonstrations of artificially induced aneurysm, arteriosclerosis, experimental thrombus, and infarct formation was successfully carried out. The advantages of such a course of pathological physiology are manifest. Not only are methods of experimentation shown, but the student acquires first hand knowledge of the details of processes commonly seen in clinical work, the interpretation of which has had to be grasped from book representation or from a hypothetical standpoint.

RESISTANCE TO INFECTIONS.

The parable of the sower is frequently quoted to illustrate the fact that not all persons acquire every infection. The seeds are sown, but some fall upon stony ground and do not take root. In other words, it is taught that the intrinsic resisting power of the organism is an important factor in preventing infection in spite of the presence of the germs. So prevalent is this conception that it would doubtless arouse a feeling of skepticism, almost of scorn, if we were to suggest that tuberculous disease was the only general infectious disease over which the resisting power of the organism had any well marked influence. We would ask our readers to refresh their memory as to what the general infections are. Briefly and generally defined, they are diseases in which a parasite causes so severe a reaction as seriously to interfere with the vital functions. This is a vague definition, but it is difficult to be more specific. We may substitute for the word parasite the term microorganism. We cannot substitute the word bacterium, for only a few more than half of the general infections are positively or probably due to bacteria. Blastomycosis, actinomycosis, and certain streptothrix infections are due to germs of a higher vegetable order, and many, such as variola, malarial disease, and syphilis, are supposed to be caused by animal parasites. The second part of the definition also is necessarily vague, since any parasite produces more or less systemic disturbance and, indeed, it is even difficult to draw the line between poisoning animals and plants and true parasites. For example, the ordinary tapeworms produce considerable interference with nutrition, which is not to be ascribed to mechanical factors and certainly not to direct abstraction of nutriment. A poisonous serpent is obviously not a parasite. A bee or wasp is scarcely more so, and yet is commonly classed as a visitant parasite. Ordinary lice are parasites only in the sense that they remain in the clothing or on the skin more permanently than the bee or wasp. The itch mite is strictly

a parasite, and yet its systemic effect is not, on the average, so severe as that of the bee, and much less so than that of the poisonous serpent.

Thus, of the many parasites which more or less regularly invade the human body, or at least its cutaneous and alimentary surfaces, only a comparatively small number are commonly included as producers of general infection. These latter may be conveniently divided according as the disease is semelincident or not. In the former case one attack quite regularly produces a permanent immunity. Just how absolute this immunity is cannot be stated, since in most cases we must depend upon the history, which is open to considerable error. Then, too, in some diseases, typhoid fever especially, a nearly typical attack may be due to an infection with one or more distinct though probably closely related germs. The semelincident diseases include the five exanthemata, pertussis, mumps, typhoid, typhus, Asiatic cholera, and, according to most authorities, yellow fever and Malta fever. Of the diseases not characterized by semelincidence, we may recognize a group that seem actually to tend to recur in the same individual, namely, pneumococcic infection, diphtheria, erysipelas, and rheumatism. But pneumococcic infection is closely imitated by Friedlander's germ, diphtheria by Vincent's associated spirillum and bacillus, while the last two are not definitely proved to be specific, and rheumatism is a very vague term, even the acute variety seeming to be determined largely by metabolic disorders. A second group are so rare and so fatal that it is impossible to say whether they confer permanent subsequent immunity or not. Even authentic cases of reinfection would not settle this question, as the genuinely semelincident diseases are occasionally repeated. This group includes epidemic cerebrospinal meningitis, rabies, tetanus, anthrax, equinia, and malignant œdema. A third group seems to be indifferent so far as subsequent attacks are concerned, at least after the temporary antitoxic or antibacterial resistance demonstrated for some has passed. Here we have filariasis, malarial disease, influenza, bacillary dysentery, amœbic dysentery (which does not seem well established as a general infection), relapsing fever, chancroid (Ducrey's), gonorrhœa (which may be simulated by ordinary septic germs), bubonic plague, dengue, trichiniasis (and why not ecchinococcus disease?), and the various septicæmias or pyæmias due to a number of germs and including some that are quite recognizable by gross appearances, such as that due to the *Bacillus capsulatus aerogenes* and the *Bacillus pyocyaneus*.

operation the result may, but for immediate surgical intervention, prove most disastrous, for then the condition is much the same as that brought about by the rupture of an extrauterine gestation sac. In the instance here related the performance of Porro's operation seems to have been most judicious. Had the operator been content with merely suturing the rent anew, it is altogether probable that rupture would have occurred again during the next pregnancy, perhaps under circumstances in which surgical aid could not be obtained promptly. We are not told of the situation or direction of the uterine incision in this case, points which may have had much to do with the rupture that took place.

A SUBLINGUAL ABSCESS OF TONSILLAR ORIGIN.

It seems not a little remarkable that the putrid material frequently retained in the crypts of the tonsils does not oftener lead to serious infection after a cutting operation on the tonsils and neighboring structures. The formation of an abscess as the result of such infection seems to be exceedingly rare, for M. Dubar, of Paris, laryngologist to the dispensary of the Maison-Blanche, who reports a case (*Progrès médical*, February 3rd), states that it was the first one he had ever seen. It was situated immediately above the hyoid bone, and followed removal of the tonsils by *morcellement* in four sittings. The patient was an elderly woman who had been a street hawker. Her vocal apparatus seemed to show the effects of her occupation, but her general health was good. Antiseptics were used freely during the period covered by the operative procedures, but evidently they fell short of their desired effect. The abscess was large, containing about a tumblerful of pus. It was evacuated by a median incision two inches long, extending backward from the point of the chin.

OUR BOOK NOTICES.

It is a fact well known in advertising circles that a journal, as a medium for publicity, is judged by the book announcement company it keeps. To no class of journals does this apply more especially than to medical periodicals. All publishers of recognized standing are conservative in their selection of advertising media, and it follows, therefore, that that journal which is favored by the greatest number of leading book announcements is thereby publicly acknowledged as of greatest influence in its particular field. It is more than gratifying to the management of the *New York Medical Journal* that four of America's

foremost medical publishers have, by their liberal patronage, given additional strength to the high standing enjoyed by this paper. The *New York Medical Journal* believes implicitly in the value of book announcements. No physician, desirous of keeping in close touch with the literature and advances of his profession, can well afford to long deny himself time to look up the newer publications devoted to his work. We publish reviews of books of pronounced value strictly by reason of their distinct importance, and not merely as a return courtesy for complimentary copies of the books. In addition to the reviews, we consider it our duty to still further impress upon the minds of our readers the importance of looking over the book announcements in our advertising section, and, to facilitate matters, especially the index under the list of contents on the first cover page indicating the pages in each issue whereon will be found mention of the best and latest books. We earnestly commend this important feature to our readers.

REFLEX DISTURBANCES.

The *Journal de médecine interne* for March 1st is responsible for the following anecdote, which bears the stamp of truth: "I have a miserable stomach," said a confrère to me. "As soon as I eat anything but beefsteak and drink anything but water, I yawn, I feel heavy, and I suffer with oppression. All my nerves are like the strings of a violin, which everything causes to vibrate. I am bored and I bore everybody extremely." Two years later, the sufferer was again encountered. This time he was at a fashionable restaurant, with a napkin tucked under his chin, calm, and with a flower in his buttonhole, eating heartily and drinking wine of rare vintage. It was a miracle. He explained his transformation as follows: "I had an anal fissure, and the doctors forcibly dilated it for me. Is it a coincidence? Since then I find the sky more blue, my mother in law more tolerable, and you can see I enjoy with each meal a good glass of wine." The editorial comment seems to make satisfactory reply to the query as to the coincidence, for it states that the writer has seen two other cases in which a mucomembranous ileocolitis was suddenly cured by anal dilatation. Amaurosis was at one time defined as a condition in which both the patient and the physician were blind. There are conditions doubtless in which each of them must put on spectacles. It is important to therapeutic results that the glasses be worn by those who really need them.

News Items.

NEW YORK CITY AND STATE

Orange and Albany. Dr. C. G. Jones, Orange, N. Y.

The Orange and N. Y. Medical and Surgical Society. At a meeting held at the residence of Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

The Medical Society of the County of Richmond, N. Y. At a meeting held at the residence of Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

A Lecture at St. Luke's Hospital, New York. On the subject of "The Treatment of Tuberculosis of the Lungs," by Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

Formal Dinner at the Hotel Hamilton, New York. On the subject of "The Treatment of Tuberculosis of the Lungs," by Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

A Lecture at the New York City. On the subject of "The Treatment of Tuberculosis of the Lungs," by Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

The Rochester, N. Y. Board of Health. On the subject of "The Treatment of Tuberculosis of the Lungs," by Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

The Medical Society of the County of Oneida, N. Y. At a meeting held at the residence of Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

The New York Post-Graduate Medical School and Hospital. At a meeting held at the residence of Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

The New York Pathological Society. At a meeting held at the residence of Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

The New York Academy of Medicine. At a meeting held at the residence of Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

The New York County Medical Association. At a meeting held at the residence of Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

The New York Society of Ophthalmology. At a meeting held at the residence of Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

The New York Society of Dermatology and Genitourinary Surgery. At a meeting held at the residence of Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

The New York Society of Medical Jurisprudence. At a meeting held at the residence of Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

The New York Society of Obstetrics and Gynecology. At a meeting held at the residence of Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

The New York Society of Pediatrics. At a meeting held at the residence of Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

The New York Society of Syphilology. At a meeting held at the residence of Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

The New York Society of Venereal Diseases. At a meeting held at the residence of Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

The New York Society of Tropical Medicine. At a meeting held at the residence of Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

The New York Society of Bacteriology. At a meeting held at the residence of Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

The New York Society of Pathology. At a meeting held at the residence of Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

The New York Society of Physiology. At a meeting held at the residence of Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

the Bureau of Charities the names of all tuberculosis patients who are unable to secure, and the bureau will undertake to see that they are secured.

The Hospital Conference of the City of New York.

A permanent organization with a resolution adopted at the meeting of hospital delegates, held on February 10th, 1911, at the Board of Health Building, New York City, will be organized by the City of New York, on Wednesday, April 18th, 1911, at the Board of Health Building, New York City. The meeting will be held for the purpose of organizing the report of the conference and of the adoption of a permanent organization. Following the consideration and adoption of this report, a permanent organization will be completed by the election of officers and the adoption of a programme for the ensuing year. Semi official assurance has been received from the various hospitals of the city that they will support the hospital conference, various committees which have had under consideration problems of hospital finance and hospital economy, will retire. The movement to establish and maintain a healthy state of affairs in hospital administration will therefore become concentrated and may be rendered permanently effectual by means of the hospital conference; and the fullest possible representation of the hospitals of New York is earnestly desired at next Wednesday's meeting.

Infectious Diseases in New York:

At a meeting held at the Board of Health Building, New York City, on April 10th, 1911, the following statistics were presented for the week ending April 7th, 1911:

	APRIL 7, 1911	APRIL 7, 1911
	DEATHS	DEATHS
Smallpox	20	20
Scarlet fever	2	2
Diphtheria	106	106
Typhoid fever	1,500	1,511
Typhus fever	20	20
Measles	20	20
Whooping cough	20	20
Tuberculosis pulmonalis	386	387
	27	27
Total	2,856	3,013

Society Meetings for the Coming Week:

MONDAY, April 10th.—New York County Medical Association; Hartford, Conn., Medical Society; Chicago Medical Society.

TUESDAY, April 11th.—New York Academy of Medicine (Section in General Medicine); Buffalo Academy of Medicine (Section in Pathology); Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Society of the County of Kings, N. Y.; Baltimore Academy of Medicine.

WEDNESDAY, April 12th.—New York Academy of Medicine (Section in Genitourinary Diseases); New York Society of Dermatology and Genitourinary Surgery; Woman's Medical Association (New York Academy of Medicine); Medical Society, New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society.

THURSDAY, April 13th.—New York Academy of Medicine, New York; New Bedford, Mass., Society of Improvement (private); Medical Society of City Hospital Alumni, St. Louis; Atlanta Society of Medicine.

FRIDAY, April 14th.—New York Academy of Medicine (Section in General Medicine); New York Post-Graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Clinical Society of the New York Post-Graduate Medical School and Hospital; Baltimore Clinical Society; Chicago Gynecological Society.

PHILADELPHIA AND THE MIDDLE STATES

The Philadelphia Board of Health. Dr. Henry J. Hays, of Philadelphia, has been appointed a member of the Board of Health of Philadelphia to fill the vacancy caused by the resignation of Dr. Charles E. Frazier.

The West Philadelphia Hospital for Women held visiting lectures on the subject of "The Treatment of Tuberculosis of the Lungs," by Dr. C. G. Jones, Orange, N. Y., on April 10th, 1911.

visited the hospital and inspected the improvements recently completed.

Electrocution for New Jersey.—On April 4th, Governor Stokes signed the bill substituting electrocution for hanging after March 1, 1906.

The Insane Wards of the Philadelphia Hospital will be speedily relieved of overcrowding. On the 31st day of March, Mayor Weaver approved an ordinance appropriating \$10,000 to make the changes necessary in the Philadelphia Museum Building, which is near the insane department.

The North Jersey Alumni Society of the University of Pennsylvania held its annual banquet at Newark, N. J., on April 2nd. Dr. William G. Hanrahan was toastmaster. Dr. Edgar F. Smith, Dr. James Truman, and Dr. Robert G. Torrey responded to toasts.

The Clinical Society of the Elizabeth (N. J.) General Hospital and Dispensary.—The next meeting of this society will be held at the hospital on Tuesday, April 17th. Dr. Alonzo Pettit will present a paper on Progress in Medicine and Surgery in the Last Forty Years.

The Essex County (N. J.) Medical Society.—At the annual meeting, held at Newark, on Tuesday, April 3rd, Dr. Archibald Mercer, of Newark, was elected president, and Dr. H. C. Bleye, of Newark, was elected vice-president. Resolutions denouncing contract practice, and urging the passage of anti nostrum laws, were adopted.

The Philadelphia General Hospital.—Dr. Henry Sykes has been appointed medical superintendent of the Philadelphia General Hospital. The title, medical superintendent, replaces the old title, chief resident physician, under which Dr. Daniel J. Hughes and Dr. Montgomery H. Biggs worked for the institution.

Changes in the Jefferson Medical College Faculty.—The vacancy in the faculty of the Jefferson Medical College caused by the death of Dr. William Smith Forbes, professor of anatomy, has been filled by dividing the chair and appointing Dr. Edward Anthony Spitzka, of New York, to be professor of anatomy, and Dr. George McClellan, of Philadelphia, to be professor of applied anatomy.

The Cumberland County (N. J.) Medical Society held its annual meeting at Port Norris, on Wednesday, April 11th. Dr. J. M. Baldy, of Philadelphia, read a paper on Uterine Cancer, and Dr. A. J. Mander, of Millville, read a paper on The Eye in Health and Disease. The election of officers resulted as follows: President, Dr. J. A. Moore, of Bridgeton; vice-president, Dr. L. H. Bossert, of Newport; secretary, Dr. L. L. Hand, of Millville.

The Philadelphia Polyclinic.—During March, the following work was done at the Philadelphia Polyclinic and College for Graduates in Medicine: Patients admitted to house, 114; patients discharged, 111; new patients treated in dispensary, 1,798; total visits to dispensary, 8,440; accident ward, 640. The work from April 2nd to April 7th was special eye work, during which special lectures, demonstrations and clinics were given by the ophthalmological staff of the hospital. The attendance was satisfactory.

The Union County (N. J.) Medical Society.—The annual meeting of this society was held at the Elizabeth General Hospital on April 11, 1906, when the following officers were elected for the ensuing year: President, Dr. Thomas E. Dolan; vice-president, Dr. Horace R. Livengood; secretary, Dr. P. DuBois Bunting; treasurer, Dr. Alvin R. Eaton, Jr.; reporter, Dr. M. A. Shangle; member of board of censors, Dr. Norton L. Wilson; delegates to State convention, Dr. Thomas B. Prout, Dr. E. W. Hedges, and Dr. W. U. Selover. The subsequent programme included the reading of an interesting paper on "The Fight Against Tuberculosis," by the retiring president, Dr. William H. Murray.

Scientific Society Meetings in Philadelphia for the Week Ending April 21, 1906.—Monday, April 16th, Medical Jurisprudence Society. Tuesday, April 17th, Section in Ophthalmology, College of Physicians; Dermatological Society; Academy of Natural Sciences; North Branch, Philadelphia County Medical Society. Wednesday, April 18th, Philadelphia County Medical Society (business meeting for members only); Section in Otolaryngology, College of Physicians; Association of Clinical Assistants of Wills Hospital; Franklin Institute. Thursday, April 19th, Section Meeting, Franklin Institute. Friday, April 20th, University of Pennsylvania Medical Society; American Philosophical Society; West Philadelphia Branch, Philadelphia County Medical Society.

The Transmissible Disease Problem in Philadelphia.—A report is receiving rather widespread publicity in Philadelphia that the department of health is to advocate the erection of three hospitals for the treatment of transmissible diseases, instead of one large central hospital. The proposed institutions would be distributed in the three sections of the city: the northeast, the central, and the southern. The department will probably find, when it comes to locate the sites for these hospitals, that, in spite of the publicity given to the modern ideas of the spread of transmissible diseases and the safety to those who live near a hospital for their treatment, the public will exhibit its usual panic at the proximity of what the newspapers are still pleased to call a "pest house," usually in large capitals. We do not forget the experience of the Children's Hospital ten years ago with its diphtheria ward and the Children's Hospital is situated in a neighborhood inhabited by fairly intelligent people.

Charitable Bequests.—By the will of Annie M. Lynch St. Vincent's Home and St. John's Home receive \$100 each. By the will of John F. Young the Episcopal Hospital receives \$600.

By the will of Andrew T. Dotger, of New York city, the German Hospital of Philadelphia receives \$10,000.

By the will of G. Martin Brill the Bryn Mawr (Pa.) Hospital receives \$5,000.

By the will of John W. Helb the German Hospital receives \$200.

By the will of J. Vaughan Merrick St. Timothy's Hospital receives \$2,000.

Philadelphia Personal.—Dr. W. W. Keen will close his private hospital on June 1st, and will place his private patients hereafter in the new Jefferson Hospital, where ample accommodations for the entire staff will be provided.

Dr. John Myers Swan, of Canton, China; Dr. Montgomery E. Leary, of Rochester, N. Y.; Dr. J. Thomason Ward, of Laredo, Texas; Dr. A. F. Rodrick, of South Framingham, Mass.; Dr. Linn Emerson, of Orange, N. J.; Dr. J. Thornton Barnsdall, of Buffalo, N. Y.; Dr. E. K. LeFever, of Boiling Spring, Pa.; Dr. H. Bierman, of Bloomsburg, Pa.; Dr. Henry N. Blum, of New Orleans, La.; Dr. William J. O'Neil, of New London, Conn.; Dr. W. F. Kunkle, of Williamsport, Pa.; Dr. T. M. Stahlman, of Pittsburgh, Pa.; Dr. R. L. Nourse, of Boise, Idaho; Dr. C. J. Conway, of Montreal, Canada; Dr. W. S. Rice, of Durham, Pa.; Dr. F. B. Swartzlander, of Doylestown, Pa.; Dr. Amy E. White, of Chester, Pa.; Dr. V. J. Invin, of Springfield, Mass.; Dr. J. W. Stitzel, of Hollidaysburg, Pa.; Dr. Clara S. Keiser, of Reading, Pa.; Dr. G. H. Moore, of Schuylkill Haven, Pa.; Dr. George F. Seiberling, of Allentown, Pa.; Dr. F. E. Michener, of Delaware, Ohio; Dr. William C. Davis, of Columbus, Ohio; Dr. A. J. Hill, of Minerva, Ohio; Dr. W. K. Campbell, of Long Branch, N. J.; Dr. D. C. Louchery, of Clarksburg, W. Va.; Dr. M. E. Miller, of Washington, D. C.; Dr. R. F. Bacon, of Milwaukee, Wis.; Dr. H. K. Hoy, of Altoona, Pa.; Dr. Omar O. Hall, of Milford, Ill.; and Dr. J. R. Garrett, of Roanoke, Va., are registered at the Philadelphia Polyclinic and College for Graduates in Medicine.

The Health of Philadelphia.—During the week ending March 31, 1906, the following cases of transmissible diseases were reported to the bureau of health:

	Cases.	Deaths.
Malarial fever.....	5	0
Typhoid fever.....	225	33
Scarlet fever.....	39	0
Chickenpox.....	74	0
Diphtheria.....	101	12
Cerebrospinal meningitis.....	7	1
Measles.....	514	10
Whooping cough.....	53	8
Tuberculosis of the lungs.....	175	72
Pneumonia.....	181	96
Erysipelas.....	21	2
Eruptive fever.....	4	0
Trachoma.....	2	3
Mumps.....	37	0
German measles.....	5	0
Septicæmia.....	3	2
Cancer.....	13	18

The following deaths were reported from other transmissible diseases: Tuberculosis, other than tuberculosis of the lungs, 10; dysentery, 1; diarrhoea and enteritis under two years of age, 18. The total deaths numbered 625, in an estimated population of 1,469,126, corresponding to an annual death rate of 22.19 in 1,000 population. The total infant mortality was 167; under one year of age, 118; between one and two years of age, 49. There were 30 still

pathology and practice (the symptomatology, ætiology, diagnosis, pathology, and treatment of disease), weight, 25; (6) Bacteriology and hygiene (bacteriological methods, especially those relating to diagnosis; the application of hygienic methods in prophylaxis and treatment), weight, 10; (7) Obstetrics and gynecology (the general practice of obstetrics; diseases of women, their pathology, diagnosis, symptoms, and treatment, medical and surgical), weight, 15; total, 100. Two days will be required for this examination. Age limit, 20 years or over on the date of the examination. This examination is open to all citizens of the United States who comply with the requirements. Applicants must indicate, in answer to question 15 of the application form, that they are graduates of reputable medical colleges. Applicants should at once apply to the United States Civil Service Commission, Washington, D. C., for application Form 1312, and for information concerning places at which the examination will be held. No application will be accepted unless properly executed and filed with the commission at Washington. In applying for this examination the title, medical interne, Government Hospital for the Insane, should be used in the application. As examination papers are shipped direct from the commission to the places of examination, it is necessary that applications be received in ample time to arrange for the examination desired at the place indicated by the applicant. The commission will therefore arrange to examine any applicant whose application is received in time to permit the shipment of the necessary papers.

Meetings of National and State Medical Associations During the Month of May, 1906:

NATIONAL.

Congress of American Physicians and Surgeons, next meeting at Washington, D. C., May 7th, 8th, and 9th.
 Association of American Physicians, annual meeting at Washington, D. C., May 15th and 16th.
 American Climatological Association, annual meeting at Atlantic City, N. J., May 12th, 13th and 14th.
 American Dermatological Association, annual meeting at Cleveland, Ohio, May 30th and 31st, June 1st.
 American Gynecological Society, annual meeting at Hot Springs, Va., May 22nd, 23rd and 24th.
 American Laryngological Association, annual meeting at Niagara Falls, N. Y., May 31st and June 1st and 2nd.
 American Pædiatric Society, annual meeting at Atlantic City, N. J., May 30th and 31st and June 1st.
 American Therapeutic Society, annual meeting at New York, May 3rd, 4th, and 5th.

STATE.

Arkansas Medical Society, annual meeting at Pine Bluff, May 8th, 9th, and 10th.
 Connecticut Medical Society, annual meeting at New Haven, May 23rd and 24th.
 Illinois State Medical Society, annual meeting at Springfield, May 15th, 16th, and 17th.
 Iowa State Medical Society, annual meeting at Des Moines, May 16th, 17th, and 18th.
 Louisiana State Medical Society, annual meeting at New Orleans, May 8th, 9th, and 10th.
 The Michigan State Medical Society, annual meeting at Jackson, May 23rd, 24th, and 25th.
 Missouri State Medical Association, annual meeting at Jefferson City, May 15th.
 The Montana State Medical Association annual meeting at Butte, May 9th and 10th.
 Nebraska State Medical Association, annual meeting at Lincoln, May 1st, 2nd, and 3rd.
 New Hampshire Medical Society, annual meeting at Concord, May 17th and 18th.
 New Mexico Medical Society, annual meeting at Albuquerque, May 2nd.
 The Medical Society of the State of North Carolina, annual meeting at Charlotte, May 29th, 30th, and 31st.
 North Dakota State Medical Association, annual meeting at Fargo, May 16th and 17th.
 Ohio State Medical Association, annual meeting at Canton, May 9th, 10th, and 11th.
 Oregon State Medical Society, annual meeting at Portland, May ---
 Rhode Island Medical Society, annual meeting at Providence, May 31st.
 Utah State Medical Society, annual meeting at Salt Lake, May 8th and 9th.

List of Current Literature.

THE BOSTON MEDICAL AND SURGICAL JOURNAL

1. The Mental Symptoms of Cerebral Tumor, By PHILIP COOMBS KNAPP.
2. The Operation for Cataract, By FREDERICK E. CHENEY.
3. The Early Diagnosis and the Aggressive Treatment of Pulmonary Tuberculosis in a Large Out Patient Clinic, By JOHN B. HAWES, M.D.

1. The Mental Symptoms of Cerebral Tumor.

Knapp says that he has made an attempt to estimate the frequency of mental symptoms in cases of tumor of the brain from a study of the clinical history of 104 cases in which a growth of some nature was found at the autopsy. Mental disturbances sufficient to attract attention were noted in seventy-nine, a trifle over seventy-five per cent. of the cases. But on further study this number was greatly reduced. In fourteen cases the tumor, although of considerable size, was but one manifestation of tuberculosis of the brain, and tuberculous meningitis coexisted. In six cases there was marked alcoholism, in other cases the growth was congenital, or there were complicating diseases. Such cases, forty, were thus excluded. In the sixty-four cases remaining, mental symptoms were noted fifty-eight times, or a trifle over ninety per cent. Mental disturbance as the result of a cerebral lesion is what might be fairly expected from our knowledge of the anatomy and function of the brain. There is a probability that in every case of brain tumor presenting any cerebral symptoms some mental symptoms can be discovered, at least by a competent observer who has known the patient intimately before. The cases the authors speaks of were mostly seen in the terminal stages of the disease, being taken from the records of hospitals, a few weeks, or sometimes a few days, before death. But they all showed simple mental weakness, dulness, apathy, mental torpor, failure of memory, and a general failure of all the mental functions, ending usually in complete stupor and coma.

2. The Operation for Cataract.—Cheney describes his method of operation for cataract. He uses a local anæsthetic, a ten per cent. solution of holocaine instead of cocaine. He thinks holocaine is preferable to cocaine, as when the effects of cocaine pass off, there is usually more or less smarting and a general feeling of irritation which seems to be absent with the holocaine. Of importance is the size of the corneal incision to allow plenty of space for the removal of the lens. A source of infection in certain cases is probably the fluids, aqueous, lacrymal secretions, etc., collected in the lower cul de sac after it has washed the conjunctiva pretty thoroughly, and is likely to be well laden with bacteria. Unless this is removed by occasional sponging the ends of the corneal wound are sometimes well bathed in it when the eye is rotated downward. The author has used various bandages, but has received the best results with the old knit Berlin bandage. As to after treatment, he keeps his patients in bed for two to three days, the dressing being changed daily, and the bandage being removed permanently on the seventh or eighth day. Atropine is instilled, and a twenty-five per cent. solution of argyrol used with each dressing.

3. The Early Diagnosis and the Aggressive Treatment of Pulmonary Tuberculosis in a Large Out Patient Clinic.—Hawes summarizes his observation by stating that: (1) By waiting until the diagnosis of tuberculosis is proved by the demonstration of tubercle bacilli, those in charge of out patient clinics are sometimes responsible for the death of the patient. 2. Careful temperature records by the patients themselves, the use of tuberculin, mensuration, and spirometry assist the examiner to recognize the disease in the closed stage, i. e., before bacilli appear in the sputum. 3. Of supreme im-

6. Football and Moral Health.

By WILLIAM LEE HOWARD.

7. Chorea and Some Disorders Simulating It.

By AUGUST V. ESHNER.

1. **Some Points for Discussion Relating to the Prevention and Treatment of Pneumonia.** Robinson is of the opinion that in order to be valuable and reliable, as regards prognosis and treatment, frequent counts of leucocytes should be made during the acute stage of pneumonia, as isolated counts have little real value and are frequently misleading. The value of creosote by inhalation in vapor is great; it is easily volatilized, has undoubted antiseptic power, and the odor of its vapors are unobjectionable. The pathogenic organism of lobar pneumonia is admittedly the pneumococcus, or *Micrococcus lancolatus*. We know the microbe to be exceedingly vulnerable. To employ creosote inhalation early in the treatment of pneumonia, before lung consolidation takes place, is quite important. As influenza is the most important factor of the increase of pneumonia, we should guard against this contagious disease and give it immediately upon appearance proper treatment. We know, furthermore, that the pneumococcus is found in the secretions of the throat and mouth of many healthy people, and for long periods of time. It is essential, therefore, for every one, so as to aid in the prevention of pneumonia practically, to keep mouths and throats in as sterile condition as possible. He further endorses very much the use of coca, given by mouth or hypodermically. As an instance of the value of this drug he narrates a case. Great success has also been achieved with the outdoor, open tent treatment.

5. **Intraligamentous Drainage for Nonsuppurating Parametritis, with Description of Technics.**—Garrigues gives his method of operation in nonsuppurating parametritis as follows: After curetting the uterus the cervix is drawn toward the healthy side, and a bullet forceps inserted in the vagina to the side of and slightly posterior to the cervix, so as to put the vagina on the stretch. An incision is made through the vaginal wall close to the uterus about three fourths of an inch in length. Through this incision the forefinger is inserted, and, keeping close to the uterus, is pushed well up between the layers of the ligament into the hard parametrium and then outward, so as to open up the mass freely for drainage. Should the Fallopian tube be much swollen it is opened by means of a blunt forceps, under the guidance of the index finger. A good sized tube of large calibre is introduced either in the parametrium or in the tube, as the case may be, and the operation is complete. If no pus is present a small quantity of bloody serous fluid escapes. The use of an artery forceps is unnecessary. The author adds that the operation is not dangerous, usually not very difficult, and the results are certain and satisfactory. He has had no death following this operation.

7. **Chorea, and Some Disorders Simulating It.**—Eshner thinks that chorea is especially a disease of childhood and adolescence. It occurs more commonly in females than in males, in the proportion of two to one. It affects all classes of society, although it is more common in the city than in the country. It is rare in negroes and Indians. The largest number of attacks occur in the spring of the year. The characteristic and usually the most obtrusive symptom of chorea is the irregular, jerky, disorderly, incoordinate, purposeless, involuntary movements, which are increased by excitement and are as a rule absent during sleep. They may be confined to one member or to one side of the body, or all of the extremities may be affected. The face rarely escapes. The diagnosis is, as a rule, easy. Arsenic appears to act with the efficacy of a specific in the treatment, and in ordinary cases the administration of Fowler's solution, together with good food, ample

sleep, fresh air, and freedom from strain and emotional influences, will be sufficient to bring about recovery. Some form of iron may be required in addition, and quinine may be a useful adjuvant. When the movements are violent and the mental perturbation is marked, the patient should be isolated and be kept in bed.

BRITISH MEDICAL JOURNAL

March 21, 1908.

1. **Demonstrations on the Cystoscope and a Method of Illustrating Diseases of the Bladder and the Appendages in Renal Disease by the Opaque Projector.**
By D. NEWMAN.
2. **Anæsthetics and Renal Activity: An Experimental Investigation into the Effects of Prolonged Chloroform and Ether Narcosis. (Report XCIV of the Science Committee of the British Medical Association).**
By W. H. THOMPSON.
3. **Treatment of Cicatricial Strictures of the Urethra with the Electrolytic Needle.**
By S. B. SELHORST.
4. **Intracranial Hæmorrhage in the New Born.**
By J. C. TURNBULL.
5. **Ascaris Lumbricoides and Appendicitis.**
By F. E. AULEY.

2. **Effects of Anæsthetics Upon the Kidney.**—Thompson, in the second part of his report, summarizes his conclusions as follows: Ether. 1. During ether narcosis the volume of urine secreted is affected in two ways. In most instances there is a decrease, in a few an increase. The latter is probably an early or light effect, the former a pronounced effect. The depressing effect is, however, more marked than with chloroform, and complete arrest more readily occurs. 2. The after effect is like that of chloroform, but as a rule, less marked. The maximum outflow of urine occurs about three hours after discontinuance of the anæsthetic. 3. The effect of ether on the output of nitrogen corresponds more closely with its influence on the outflow of urine than is the case with chloroform. 4. The effect of ether narcosis on the concentration of the urine differs also from that of chloroform. With the former, the urine when diminished in volume is, as a rule, more concentrated (contains more nitrogen). The converse is the case with chloroform. The effect of ether is, therefore, primarily vascular. 5. In ether narcosis, when the curves of urine outflow, kidney volume, and blood pressure are compared, although there is not complete parallelism there is on the whole a closer correspondence than is the case with chloroform. This statement does not apply to the arrest of urinary secretion, which occurs more readily and with a relatively higher blood pressure, in ether than in chloroform narcosis. 6. The escape of leucocytes into the urine after full ether narcosis is more marked than with chloroform, probably indicating a higher degree of stasis in the glomerular capillaries. 7. An increased excretion of chlorides is seen after ether inhalation, but much less and of shorter duration than in the case of chloroform. 8. Reducing substances, not sugar, which were not present in the normal urine, appeared in a small number of the experiments after ether narcosis. Alcohol-chloroform-ether mixture. 1. During full narcosis the outflow of urine is diminished, but to a less degree than with either chloroform or ether. The after effect is usually greater than with either. 2. The excretion of nitrogen is less depressed than the volume of urine. 3. The effect on the concentration of the urine is variable, the results alternating between those of chloroform and ether. 4. The chlorides are increased to a less degree than with chloroform, but to a greater degree than with ether. In its short duration the effect resembles that of ether. Ether-chloroform mixture. 1. The full influence and after effect produces a diminution of urine less than that of ether, but more than that of chloroform. 2. The excretion of nitrogen is less influenced than that of urine. The effect resembles that of ether more than that of either

hæmorrhage from the brain or liver. Upon what drugs then can we depend? First it is of the utmost importance to prevent any stimulation of the heart or vasoconstriction, either of which may be produced very readily reflexly by any mental disturbance. The most efficient prophylactic is to diminish all sensory reflexes by means of morphine. It probably does more good than any other drug. Calcium is the drug for augmenting the clotting power of the blood. It should be administered preferably in a dissociable form such as the neutral chloride solution. In urgent cases it may be given subcutaneously in doses of one to two grains, deeply into the subcutaneous tissues, to avoid local irritations.

LYON MEDICAL.

March 18, 1906.

1. Pathological Anatomy of Tubercular Rheumatism (*To be continued*), By ANTOINE PONCET and A. LERICHE.
2. The Inconveniences of Salol.

By M. CARLE and A. PONT.

1. **Pathological Anatomy of Tubercular Rheumatism.**—Poncet and Leriche divide their paper into a description of the recent laboratory researches regarding inflammatory tuberculosis, and their application to the pathogeny of tuberculous rheumatism, and a consideration of the pathological anatomy of tuberculous articular rheumatism. Under the first heading it is shown that the inflammation may result from diffusible bacillary toxins, adherent products, and the direct action of the bacillus. Acute and subacute tuberculous rheumatism they find to exist in two forms, one involving predominantly the synovial membrane, hydropic, curable with preservation of the functions of the joint; the other predominating about the joint and in the bone, dry, plastic, and resulting in ankylosis. Chronic tuberculous rheumatism they find also in two forms, the atrophic and the hypertrophic. The atrophic form presents two types, one common, the polyarthritides deformans, the other rare, osteoporosis without deformity.

2. **Salol.**—Carle and Pont present these conclusions in regard to buccodental hygiene: (1) Antiseptics are useless in a dentifrice because it is sufficient to use an inert alkaline powder to combat the acidity of the mouth and to mechanically clean the teeth and the dental interstices. (2) The constant use of antiseptics becomes dangerous, because the majority of them are irritant and productive of changes in the mucous membrane and the skin. (3) Salol in particular should not be used for such a purpose, because it is very apt to cause an eczema. (4) It is better to teach patients how to brush their teeth than to formulate for them an antiseptic dentifrice.

PRESSE MEDICALE.

March 10, 1906.

1. Osmosis and Cryoscopy, By HALLION.
2. Enunciation (*Oralité*) in Speaking, By PIERRE BONNIER.
3. A Staining Reaction of Fatty Acid. Apropos of the Article by Mr. Jacobson, By JEAN CAMUS and PH. PAGNIEZ.

1. **Osmosis and Cryoscopy.**—Hallion presents a rather technical paper on the relation of the freezing point of a liquid to its osmotic properties.

2. **Enunciation in Speaking.**—Bonnier has coined the French word "*oralité*" to express the meaning he wishes to convey, a meaning which seems to be nearly, though perhaps not exactly expressed by the English word "enunciation." A speaker may be imperfectly understood on account of two reasons, faulty audition on the part of the listener, or faulty enunciation on his own part, and the author believes that in spite of the prevalence of imperfect hearing a great part of the difficulty arises from the failure on the part of the speaker to properly enunciate his words. Consequently,

ly, he urges that children should be more thoroughly instructed in the proper use of the voice.

3. **A Staining Reaction of Fatty Acid.**—Camus and Pagniez state that they arrived at the same result as Jacobson, though by a different way.

March 14, 1906.

1. Semantics of the Loebing, By C. G. L. J. J. J.
2. Reaction of the Urine to Methyl Blue in Typhoid Fever, By F. COUSIN and A. COSTA.
3. Continuous Drainage of the Stomach in the Treatment of Acute Peritonitis, By P. CAVAILLON.
4. Thigenol in Gynecology, By V. DELAUNAY.
5. Wounds Produced by Rubbing and Traumatic Ulcers, By R. F.

2. **Reaction of the Urine to Methyl Blue in Typhoid Fever.**—Cousin and Costa do not consider that the reaction of methyl blue in the urine has the clinical value in the diagnosis of typhoid fever which has been attributed to it by an Italian writer named Russo.

3. **Drainage of the Stomach in Acute Peritonitis.**—Cavaillon describes the method employed by Jaboulay, who reported in 1905 a case of acute peritonitis in which he had performed a gastrostomy and drained the stomach with good results. He deals with the theoretical grounds on which the operation was based, the technics of the gastrostomy, the length of time the drainage should be maintained, and the closure of the fistula.

4. **Thigenol in Gynecology.**—Delaunay has used thigenol in fifty-one gynecological cases of various kinds, and is favorably impressed by the results obtained.

March 17, 1906.

1. Œsophagoscopy in the Treatment of Cicatricial Strictures of the Œsophagus, By LOUIS SENCERT.
2. The Indications which the Alimentary Regimen Should Fulfill in Biliary Lithiasis, By E. DUFOURT.

1. **Œsophagoscopy in the Treatment of Cicatricial Strictures of the Œsophagus.**—Sencert reports two cases in which œsophagoscopy was employed as an aid and guide in the treatment of cicatricial stenosis of the œsophagus. One patient recovered, one died. This proves that œsophagotomy, even when performed in the direct view of the operator, may be a very serious operation.

2. **Indications Which the Alimentary Regimen Should Fulfill in Biliary Lithiasis.**—Dufourt gives as these indications (1) to avoid, or to lessen, infection of the biliary passages; (2) to maintain the normal composition of the bile; (3) to provoke an abundant secretion of the bile; (4) to obtain as constant a biliary excretion as possible.

SEMAINE MEDICALE.

March 14, 1906.

1. Chronic Jaundice and Hepatic Colic Symptomatic of Hydatid Cyst of the Lobe of Spigel, By M. TUFFIER.
2. The Early Diagnosis of Pulmonary Tuberculosis by the Study of Points of Impaired Resonance at the Apex, By MICHEL LANDOLFI.
3. The Opsonic Method with Reference to the Prognosis and Treatment of Tuberculosis.

1. **Hydatid Cyst of the Spigelian Lobe of the Liver.**—Tuffier reports the case of a man, thirty-six years old, who had had an attack of supposed appendicitis two years previously, who had not been operated on, and who had been jaundiced ever since. He had also had several other diseases, and was suffering from marked gastric and other symptoms which seemed to indicate biliary obstruction. On operation the gall-bladder was found to be white, almost transparent, and distended with a colorless mucus. Extrahepatic exploration of the biliary ducts gave no results. A hydatid cyst, as large as a man's thumb, was found in the lobus Spigelii and removed. Recovery followed. The author draws the conclusion from this case that

the first chill, usually terminate fatally. It is the author's opinion that adrenalin chloride given continually will not prevent the chill, but will prevent the severe congestion usual in these cases.

4. The Treatment of Complete Prolapse of the Rectum by Rectopexy.—Delaup says that the principles upon which the cure of prolapse depends are: 1. The removal of any exciting cause; and, 2, the restoration of the supports which have been destroyed or altered. The exciting causes in children are most commonly diarrhoea, constipation, phimosis, whooping cough, lack of muscular tonicity. In adults, besides the causes stated, there may also be calculus, enlarged prostate, tumors of the bladder or vaginal wall. For prolapse of the first degree, cauterization of the superfluous membrane is advisable. If the prolapse is irreducible or gangrenous, or complicated with ulcers, the method of resection is indicated. A very large prolapse may be treated by resection, or sigmoid opening. In uncomplicated prolapse, even of large extent, rectopexy by Fowler's method is the best.

6. Remarks on Abscess of the Liver.—Sexton notes that abscess of the liver may follow malaria and typhoid fever on account of the congested condition of the liver, occasioned by these diseases. But there may be also abscess of the liver with absence of fever, dysentery, and jaundice. Aseptic aspiration is the only positive way of clearing up a diagnosis of pus in the liver. The finding of malarial plasmodium in the blood or the amœbæ coli in dysenteric stools aids in the diagnosis. With perfect adhesions, no leaky drains, the prognosis in single tropical abscess of the liver should be favorable. Free drainage without irrigation is the safest rule in treating abscess of the liver. Perhaps dysentery as a cause of liver abscess has been exaggerated, as it may be a coincidence in some cases instead of the real cause.

8. Hæmostatics.—Boykin says that it is a great pity that the medical world has never discovered a safe and positive hæmostatic that would effectually check hæmorrhages of every kind, but nothing has ever been discovered that would answer the purpose. The hæmostatics discussed in this paper are those whose effect are upon the nervous system, and which act upon the cells of the roots of the vasomotor and vasoconstrictor nerve centres. Most hæmostatics come from the vegetable kingdom, but some few are obtained from the animal and a very few from the mineral kingdom. To the vegetable class belong ergot, digitalis, ipecac, turpentine, opium preparations, belladonna, and gallic acid. The animal extract of adrenalin is well known; and to the acids and mineral salts belong sulphuric acid, acetic acid, copper, zinc, and lead salts.

THE PRACTITIONER

March, 1906.

1. Reducible Inguinal Hernia in Boyhood, By E. OWEN.
2. Cerebral Manifestations of Hypertonus in Sclerosed Arteries, By W. RUSSELL.
3. The Current Theories Regarding the Causation of Arteriosclerosis, By J. M. COWAN.
4. Unsuspected Tuberculous Peritonitis, By R. JOHNSON.
5. Valvular Disease of the Heart. Aortic Regurgitation, By R. CRAWFURD.
6. On Gout and Its Causation, By I. W. HALL.
7. Rheumatoid Arthritis, By A. E. GARROD.
8. Gumma of the Iris, By H. W. LYLE.
9. An Unusual Tumor of the Kidney, By C. A. BALI.
10. The Causes and Treatment of Nocturnal Enuresis, By V. C. DE BOINVILLE.

2. Hypertonus in Sclerosed Arteries.—Russell suggests that the condition of the arterial wall, as recognized in the pulse, often misleads as to the real condition of the heart. The structural changes of the arterial wall are atheroma, arteriosclerosis, and calcareous degeneration. The first signifies thickening in

patches, the second uniform thickening, the third is self explanatory, but may occur with atheroma. Arterial thickening may be due to permanent tissue increase, or to hypertonic contraction, the latter being removable. Deleterious substances of various kinds in the circulation, from renal or gastrointestinal disease, may cause hypertonus. Toxic absorption or defective elimination expresses it broadly. In cases of suddenly occurring paralysis from sudden arrest of the blood supply we must consider as cause embolism, thrombosis, and hypertonic contraction. The last is more frequently a cause than is generally supposed, and is still more potent when there is also a feeble left ventricle. It may be suspected in connection with proteid diet, constipation with autointoxication, or exposure to cold. As to treatment, the effect of relaxing drugs must be carefully watched. If the heart action is good, treatment may be very beneficial, but if it is feeble the effect on the heart of the vasodilator to be used must be considered.

3. Causation of Arteriosclerosis.—Cowan divides arterial disease into two main groups, the focal or nodular, and the diffuse. In the first only a small portion of the arterial walls may be involved, the lesions are most common in the larger vessels, and if the viscera are involved, the lesion usually results from occlusion of a single vessel. Atheroma may be regarded as the general term for this lesion, and it may result from syphilis, tuberculosis, intoxications, infections, or arteriosclerosis. It may also result mechanically from irritation or strain frequently repeated. Arteriosclerosis is the diffuse arterial disease, and is best marked in the smaller vessels. The resilience of the vessel is impaired in the advanced cases. It may be due to renal disease, or to chronic intoxication of various kinds, while its essential cause is increase of the arterial tension.

4. Unsuspected Tuberculous Peritonitis.—Johnson divides acute abdominal affections which require emergency operations into two categories. In the first the acute abdominal attack is primary and immediate, in the second it occurs as a complication of some more chronic affection. Errors in diagnosis often occur from the difficulty in distinguishing between the two groups of cases. Tuberculous peritonitis is especially prone to be misleading, as it is often latent until a severe abdominal crisis occurs. Several types may be considered in making a diagnosis in acute abdominal disease: 1. That in which there is severe peritoneal infection, as in the rupture of one of the hollow viscera. 2. That in which there is acute intestinal obstruction, the most prominent symptom being early and repeated vomiting. 3. That in which symptoms of acute obstruction supervene, more or less rapidly, upon chronic symptoms, abdominal distention with visible peristaltic movement, and vomiting being the prominent symptoms. Tuberculous peritonitis pursuing a latent and unsuspected course may suddenly develop acute abdominal symptoms, which may be misinterpreted until an operation is performed. They may also vary within wide limits, and may simulate either of the mentioned types of acute abdominal disease.

5. Valvular Disease of the Heart.—Crawford speaks of structural disease of the aortic valves as developmental from localized inflammation, or injury, or a local evidence of generalized sclerosis of the entire arterial system. There may be a cardiac, and an arterial, or atheromatous, type. Aortic regurgitation, occurring alone, is a rare lesion; it is usually combined with aortic obstruction. In the arterial type of the disease there is a chronic degenerative disease of the arterial system extending ultimately to the aortic valves. There is usually sclerosis of the peripheral arteries leading up to the atheromatous changes in the aorta. In the cardiac type the onset of the disease is

usually confined to the lower end of the penis and perineal region, with a tendency which may lead to the formation of the second branch of the lower and terminal. Acute proctitis usually occurs in the lower part of the rectum, and is characterized by the presence of a purulent discharge, which may be accompanied by pain, and by a tendency to the formation of abscesses. The condition is usually treated by the use of local applications, and by the administration of purgatives.

4. **On the Cause and Treatment of Hemorrhoids.** Hall calls attention to the fact that hemorrhoids are a common condition, and that they are usually treated by the use of local applications, and by the administration of purgatives. He states that the cause of hemorrhoids is the congestion of the rectum, and that the treatment should be directed to the removal of this congestion. He recommends the use of local applications, and the administration of purgatives, and states that these measures will usually result in the cure of the disease.

5. **Rheumatoid Arthritis.** Gairdner discusses the various forms of rheumatoid arthritis, and states that the disease is characterized by the presence of inflammation in the joints, and by the formation of nodules. He states that the disease is usually treated by the use of local applications, and by the administration of purgatives. He recommends the use of local applications, and the administration of purgatives, and states that these measures will usually result in the cure of the disease.

10. **Nocturnal Enuresis.** De Boinville concludes that nocturnal enuresis is a common condition, and that it is usually treated by the use of local applications, and by the administration of purgatives. He recommends the use of local applications, and the administration of purgatives, and states that these measures will usually result in the cure of the disease.

ORIGINAL ARTICLES

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5. **Evolution in Axis Traction.** Jackson holds the following advantages in delivery with the axis tractor: 1. Accuracy of measurement in traction. 2. Perfectly uniform traction. 3. The variation in the uniformity of traction which is possible at any given stage of delivery. 4. The direction of traction is mathematically exact with respect to the pelvic axis. 5. A minimum of traction suffices to accomplish delivery. 6. The author's studies lead him to mention of the forceps. 7. The need of traction on the part of the accoucheur is practically obviated. 8. Manipulation of the instrument is simple and easy. 9. It reduces the damage from forceps to the lowest terms. 10. The transit of the head through the curve of Carus and its evolutions therein are directed by the walls of the birth canal. 11. Slipping of forceps is fraught with no danger. 12. The danger of bad perineal tears from sudden emergence of the head is obviated. 13. In many cases of contracted pelvis it improves the prognosis. 14. With the author's tractor none of the well known advantages of the axis traction forceps is abrogated and additional advantages are afforded.

4. **Appendicitis Complicating Pregnancy and Parturition.**—Davis states that the object of his paper is to call attention to the fact that appendicitis is a serious complication of pregnancy, and that adhesions following appendicitis may bring discomfort and danger to a patient who has become pregnant after she has recovered from disease of the appendix. The proposition should also be considered, that in view of the serious consequences which follow appendicitis in pregnant women, it is desirable to remove the appendix from such women as soon as the inflammation can be diagnosed. It should also be remembered that it is practically impossible to distinguish between inflammation of the right Fallopian tube and ovary and inflammation of the appendix complicating pregnancy. An operation should not be delayed until a positive diagnosis can be made that the tube is inflamed and the appendix unaffected, or the reverse.

5. **Appendicitis Complicating Pregnancy.**—Meyer's summary is as follows: 1. Of 143 cases collected, fifty-two occurred during pregnancy and were not operated upon, sixty-nine were operated upon during pregnancy, and twenty-two occurred during the puerperium. 2. Pregnancy does not predispose to appendicitis. 3. If there has been a precedent appendicitis it usually recurs in a grave form during pregnancy. 4. Uterus, annexa, and uterine contents may be infected during pregnancy by an appendiceal abscess. 5. With a complicating pregnancy the surgical principles involved are the same as in uncomplicated cases. 6. Operation need not disturb the pregnancy. 7. In fifty-seven per cent. of the cases in which abscess was present abortion occurred, whatever the treatment. 8. Care should be taken to avoid disturbing the uterus during an operation. 9. Abortion or labor following an operation in twenty-four to forty-eight hours gives a maternal mortality of fifty-five per cent. 10. The general maternal mortality in the series of cases analyzed was twenty-eight per cent. 11. The general fetal mortality was forty per cent.

6. **Artificial Dilatation of the Gravid and Parturient Uterus.**—Meyer states that in choosing a method of dilatation one must consider (1) the condition of the cervix and os, (2) the urgency of the case, (3) the irritability of the uterus as expressed by its response to various stimuli. He believes that the operation is always a serious one, and may be most dangerous. It

should, therefore, be undertaken only by a skilled, vaginal operator, with competent assistance, and good surroundings. In cases in which vaginal hysterotomy is the operation of choice it will not always be possible to carry it out. In such cases preliminary dilatation, with Bossi's dilator, to the limit of safety, followed by metreuryesis with firm continuous traction will give better results than Dührssen's operation under unfavorable surroundings, and will be efficient in most cases.

7. The Prophylaxis of Abdominal Adhesions.—Cumston thinks it is quite impossible to prevent the formation of adhesions due to intraabdominal inflammatory processes, neoplasms, and traumatism. In attempting to prevent them strict asepsis is the first requisite. Chemical solutions must not be used within the abdomen. The peritonæum must be kept warm and also moist, and the gauze sponges which are used may be dipped in a solution of sodium bicarbonate, sodium chloride, and distilled water, which resembles the physiological peritoneal fluid. All raw surfaces should be covered with peritonæum if possible. In closing the abdominal wound the peritonæum should be sutured with fine catgut, the fascia with kangaroo tendon, and the skin and fat with silkworm gut. Opium after abdominal section is indicated when a primary focus of infection has been left, which will remain localized, or after resection or anastomosis of the stomach or intestines. Intestinal stimulants in the form of laxatives should be used very soon after operations, peristalsis tending to prevent the formation of adhesions, or one may use soap and water enemata.

11. The Nature of Cancer.—Wells quotes Bashford's summary of his interpretation of observations made as follows: 1. Cancer is identical in all vertebrates, and accommodates itself to the time limitations of life in different animals. 2. Under favorable, experimental conditions its growth is indefinite, and may be limitless in volume. 3. When artificially propagated it shows the characteristic features of the growth of sporadic tumors. 4. The growth of artificially propagated cancer is due to the continued proliferation of the parenchyma cells, which makes the reaction of the host subserve its own ends. 5. Artificially propagated tumors cause no symptoms in the organism to which they have been added. 6. The power of differentiation is definite in one direction only. 7. The number of chromosomes constant for the healthy body tissues is retained. 8. It is probable that the growth is interrupted and not uniform and continuous. 9. The Imperial Cancer Research Fund in its investigations continues to approve the early surgical treatment of cancer and the conditions which suggest it.

Letters to the Editors.

THE DOCTORS OF SHAKESPEARE.

1335 WEST THIRTEENTH STREET,
PHILADELPHIA, April 6, 1906.

To the Editors: Apropos of your recent editorial entitled *The Doctors of Shakespeare*. There are several characters in the plays that, while not called doctors in the dramatis personæ, may fairly be considered as such. The most carefully drawn is Cerimon, a lord of Ephesus, in *Pericles*. He is, undoubtedly, a good and learned gentleman, though he speaks somewhat bombastically:

I hold it ever,
Virtue and cunning were endowments greater
Than nobleness and riches.

'Tis known I ever
Have studied physick, through which secret art,
By turning o'er authorities, I have,
Together with my practice, made familiar
To me and to my aid the best infusions
That dwell in vegetables, in metals, stones;
And I can speak of the disturbances
That nature works, and of her cures; which doth give me

And be content in course of true delight
To be but busy after parting honor,
On the poor's necessities in silence,
To please the poor and death.

Friar Laurence, in *Romeo and Juliet*, is a diligent herbalist and well versed in the virtues of "baleful weeds and precious juiced flowers." His expert use of powerful hypnotics is well known.

The Lady Abbess, in *The Comedy of Errors*, relies principally upon good nursing, although she uses "wholesome syrups, drugs, and holy prayers" to "make a formal man again" of poor Antipholus, of Ephesus, who is unjustly suspected of insanity. Her really admirable common sense is in fine contrast to the wretched quackery of Pinch, "a mountebank, a threadbare juggler, and a fortune teller," who tries to exorcise the devil out of the supposed madman.

Helena, in *All's Well That Ends Well*, was somewhat of a physician, for she cures the king in two days of a fistula by means of a secret remedy inherited from her father. No mention is made of any other medical skill she may have had, however.

It is worth noting that *Pericles*, *Romeo and Juliet*, and *The Comedy of Errors* are among the very first plays Shakespeare wrote, while *All's Well* and the five with doctors in the dramatis personæ are among the last. The plays as a whole show a rather extensive familiarity with medical matters, so that it would seem as if Shakespeare early abandoned a more or less ideal conception and cynically substituted a useful lay figure as his growing knowledge enabled him to estimate with accuracy the average physician in those "low water days of medicine."

A. R. KENNEDY.

Proceedings of Societies.

MEDICAL SOCIETY OF THE MISSOURI VALLEY.

Eighteenth Semiannual Meeting, held in St. Joseph, Mo., March 22 and 23, 1906.

The President, Dr. JOHN E. SUMMERS, of Omaha, in the chair.

The Surgical Treatment of Goitre.—Dr. CHARLES H. MAYO, of Rochester, Minn., read a paper with this title, which was based upon 200 operations. He said that the neck was a field for specialism in surgery where diseases of the thyroid gland were one of the numerous attractions. Accessory thyroids were usually but lost or unattached parts of the gland. The statistics of myxœdema following an operation were unimportant in this country as yet, owing to the infrequency of complete thyroidectomy. Many cases of partial and even complete myxœdema without any operation were overlooked. Large cystic and encapsulated tumors within the gland could be enucleated to save useful gland substance. In Graves's disease one lobe and the isthmus should be removed, and if there was recurrence of symptoms, the lower part of the remaining lobe should be taken away. In the worst cases this should be done at the primary operation. The operation was no longer experimental. Both drug and serum therapy were still under discussion. Fearing malignancy, early operations were recommended in irregular and hard tumors. A transverse section of the skin and platysma muscle, with section of the omohyoid, sternothyroid, and hyoid as high as the thyroid cartilage, should be made to preserve intact their nerve supply in cases where it was necessary to obtain greater space. More than half the operations performed upon the thyroid gland were those of expediency. It was therefore necessary that a low mortality rate accompany operations for goitre. During the last fifty years the mortality had been reduced from forty per cent. to a fraction of one per cent. In a total of over two hundred operations upon the gland, if the cases of exophthalmic goitre and

...the spinal cord, medulla oblongata, cerebellum, and cerebrum these bodies were deficient in size and number or entirely absent. In the medulla oblongata the chromatic bodies were retained by some cells, but they had undergone marked subdivision and the nuclei were shrunken and eccentric. The granular yellow pigment was increased in all the cells of the central nervous system.

After giving the autopsy records of two other cases, the author described at length what he designated as the preferred method of treatment. He had forty cases, with one exception, had been either in physicians' families, or in nurses. These physicians addicted to the morphine habit would induce their wives to use the drug or others where their professional position allowed of close association. Dr. F. E. COULTER, of Omaha, said that it was very essential to have the hearty cooperation of the patients to be successful in any line of treatment we might inaugurate. Every avenue should be put out of the way of a morphine taker whereby he could get the drug. The patient should be placed in an institution where it would be pleasant and where he would not feel that he was in prison. His associates should be congenial. The nurse should be satisfactory to the patient. Personally, he employed what was known as the physiological method in treating these patients.

Is Vaginal Cesarean Section Justifiable?—Dr. PALMER FINDLEY, of Chicago, read a paper with this title, in which he drew the following conclusions: Less time was consumed in extracting the fetus by the abdominal route. Greater accuracy was assured in surgical cleanliness by the abdominal route. The abdominal incision was wholly under control of the operator, whereas in the extraction of the fetus per vaginam the incision might extend beyond his control, as it had done in more than one case, and with fatal results from hemorrhage and infection. In an abdominal Cesarean section opportunity was afforded of rendering the patient sterile by resecting the tubes when it was thought advisable, and various lesions, such as adhesions, tumors of the uterus demanding hysterectomy, bands as the result of ventrofixation, and diseased appendages, could be dealt with. The abdominal route assured the fetus of the greatest consideration, inasmuch as the application of forceps and the turning of the child *in utero* were necessarily attended by dangers to the fetus. Rupture of the uterus in subsequent pregnancies through the scar of a Cesarean section was a not uncommon accident, and it was apparent that, since the large majority of ruptures of the uterus were in the lower uterine segment, a scar at this point would more probably be disposed to rupture than one located in the fundus.

There were as yet no records of injury to the bladder and ureter, and the limited time since the introduction of the operation left us in doubt as to the dangers from rupture of the lower uterine segment in future pregnancies, but might we not with fairness expect such accidents, and should we not therefore proceed with caution?

Returning to the original question, the author would answer, in the light of the reported cases, and judging by the results obtained in the use of other well established methods of delivery in cases similarly indicated, that vaginal Cesarean section was not destined to find general favor with trained obstetricians, and that the legitimate scope of the operation would be so limited that it would be little practised. And yet we might expect that it would remain in general favor with a few obstetricians.

The Surgical Treatment of Total Prolapse of the Uterus.—Dr. C. O. THIENHAUS, of Milwaukee, said that the fact that many surgical methods had been devised for the treatment of total prolapse of the uterus demonstrated that possibly none of them was absolutely

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The Surgical Treatment of Total Prolapse of the Uterus.—Dr. C. O. THIENHAUS, of Milwaukee, said that the fact that many surgical methods had been devised for the treatment of total prolapse of the uterus demonstrated that possibly none of them was absolutely

perfect and adjustable to every case. The author believed that those methods which made use of the body of the uterus as a support to the bladder were to be preferred, because thereby a recurrence of the accompanying cystocele, which so often took place after other methods of surgical procedure, was made absolutely impossible. He described at length a method used by himself, a modification of that employed by Schauta and Dührssen, and reported nine cases in which he had operated with satisfactory results.

Dr. A. H. CORDIER, of Kansas City, Mo., saw no objection to departing from some of the older methods for holding the uterus in its proper position. It was his custom to do a ventrofixation operation in old patients, doing complete repair of the perinæum, both anterior and posterior, and not simply making a flap operation in the vagina, but repairing the muscles, reestablishing them, and putting the uterus in normal position.

Dr. O. BEVERLY CAMPBELL, of St. Joseph, said there was a class of cases in which the procidentia had remained for a long time, in which the vaginal mucosa had ulcerated to such an extent that it was almost destroyed, and he had seen a few such cases in which he believed the more radical operation, especially in old women, say, sixty-five years of age, of Professor A. Martin, of removing the entire vagina and uterus, and closing up the opening, would give better results than the operation described by Dr. Thienhaus. Ventrosuspension for the cure of procidentia had been a most unsatisfactory procedure.

Tumors of the Cerebellum.—Dr. F. E. COULTER, of Omaha, read a paper on this subject, in which he reported a case. He dealt with the question of neoplastic growths in the posterior fossa of the skull, taking up the ætiology, symptomatology, and diagnosis. He emphasized the more common signs and symptoms of disease in this location, thus making of more practical importance the questions of diagnosis and treatment.

Blastomycetic Dermatitis.—Dr. WILLIAM FRICK, of Kansas City, Mo., said that, while this could not be considered a very common disease, it was more frequent than was generally supposed, especially in the inland portions of America. He referred to the number of cases found in literature, and briefly reported three that he had observed.

The histopathology of the three cases was practically the same as that described by other observers. There were a few things about it which made a striking and typical picture. There was increased proliferation of epithelium, the interpapillary plugs extending deep into the corium, and being sometimes distorted. There was also the presence of whorls, as seen in epithelioma, but the epithelium held together and was not bound down in the connective tissue structures cut off from the epithelial layer, as in cancer. The most characteristic thing appeared to him to be the miliary abscesses which were found both in the epidermis and in the corium. It was in these abscesses that the organism was most abundantly found. Another interesting point was the large number of giant cells resembling those seen in tuberculosis.

For the present, the treatment consisted in excision, the administration of iodine compounds, and the use of the x ray. Since the point of entrance was usually some exposed surface of skin, if an early diagnosis was made complete excision would usually end the case, and it was the quickest and most satisfactory method of disposing of it.

Dr. CHARLES G. GEIGER, of St. Joseph, detailed a typical case of this disease which he saw about a year ago. He discussed the diagnosis of blastomycosis from tuberculosis verrucosa cutis, fungous syphiloderm, and lupus vulgaris.

Intestinal Tuberculosis and Its Surgery.—Dr. L. L.

McARTHUR, of Chicago, delivered the Address in Surgery. He stated that with the reopening of the question which had hitherto been accepted as settled, that infection almost invariably occurred through the respiratory tracts, the latest and more painstaking observations showed that through the intestinal tract a far larger number of cases of infection existed than had been thought or deemed possible. Practically, nursing children and milk fed infants were the only ones who were afflicted with true primary intestinal tuberculosis, because they were the ones exposed most commonly to infected foods, and their intestinal tracts were less resistant to such invasions. Eisenhardt, in a thousand autopsies of tuberculous adults, had found 563 cases of intestinal infection, of which 489 showed cavities in the lungs, and 74 did not. Intestinal tuberculosis was frequently overshadowed by the pulmonary disease. But inasmuch as the presence of cavities determined so regularly the intestinal infection, the absence of a cavity would have a decided prognostic value in cases that clinically came to the surgeon for aid. The patients were, in the largest proportion of cases, over twenty-five years.

After discussing at length the varieties of intestinal tuberculosis and the treatment from both a medical and surgical standpoint, the author said that his study of literature and his personal experience had led him to the following conclusions: The term primary tuberculosis of the intestines was clinically justified and the condition was often demonstrable on section. In selected cases, though desperate, surgical interference offered reasonable hope. The capacity for withstanding surgical interference was greater in this condition than in other abdominal affections of like magnitude. The first symptoms of this disease might begin as and even be mistaken for appendicitis. Partial or total exclusion would in some cases accomplish the desired results when conditions contraindicated excision. The ulcerative variety might make numerous fistulæ, as in the author's cases. Simple inflammatory processes were apt, in a tuberculous subject, to become tuberculous. Surgery offered much hope of averting an otherwise probably fatal issue. Many a case of general abdominal tuberculosis was the final result of a preceding intestinal tuberculosis which might have been at one time "operable." Both bovine and human tubercle bacilli, while not identical, were related varieties of one original form. The cutaneous hand infections of butchers were a strong argument against their absolute difference.

Club Foot, with Special Reference to Postoperative Treatment.—Dr. M. M. EDMONSON, of Kansas City, Mo., said that by beginning treatment early the foot could always be corrected by force alone. The soft tissues were easily stretched, and the bones that were malformed, especially the astragalus, were soft and cartilaginous, so that they could readily be moulded to conform to a normal position. At this stage it would require very little force to maintain this position, and it could be accomplished without causing pain. In its new position, the foot would develop normally with the rest of the body. The contracted tendons and soft tissues having been stretched, the elongated tendons would become contracted. In maintaining the corrected position at this age, a fixed dressing was probably used more than any other, especially plaster of Paris, but in this the ankle joint was immobilized and all the advantages of muscular exercise were lost. It was often difficult to apply the dressing so that the position was as good as that gained by the hand. The Barwell dressing had all the advantages and none of the disadvantages of the plaster of Paris or any fixed dressing. It was simple and easily applied. In no case should tendons be cut that could be corrected by force. Following any method of correction, some me-

[illegible]

The indirect effects of valvular lesions. *The W. M. Moore* of passing, and that all cell life and activity depended upon a proper blood supply. But this the most important principle. Therefore, a lesion in the heart might produce such a low rate of the blood supply as to cause the following symptoms:

1. The heart never reproduced a perfectly normal organism. The author called particular attention to the wide group of cases which were connected with the heart. These were connected with the central nervous system, or more generally, such as loss of weight and emaciation, a tendency to anasarca. The time of onset of the symptoms was uncertain, their duration often many years.

It was satisfactorily pointed out that in the vast majority of the cases the development of the symptoms was gradual and insidious, but might, which caused the heart, was secondary to many general infections, as diphtheria, pneumonia, etc.

The heart was not the cause, but in the writer's opinion, it was the result, and given to this infection in the system. Moreover, the disease was of far more frequent occurrence than was generally supposed. Clinicians and pathologists, writers were at fault in not considering the indirect effects. Gross errors were of very common occurrence. They suggested the necessity for more attentive study of the art of physical diagnosis by the practitioner, and the making of an anamnesis, in making such a diagnosis, a part of every diagnosis.

[illegible]

Recent Advances in the X-Ray Treatment of Rectal Disease.—(1) Dr. H. M. Mason, of Omaha, advocated the treatment of all cases of internal hemorrhoids by the use of long continuous waves from average cathodes of one mill. in diameter, with anode cap as large as ten cm. diam., at 40 kv. (about 100 ma. in the vacuum method). He attributed the important results to producing a certain kind of internal hemorrhoids, and showed the exact method of work suggested by those of the old method directly the reverse. The former were hard and

painless, and caused inconvenience more because of their constant protrusion through a loose sphincter muscle than because of any actual suffering. The author also discussed the use of sterile water as a local anesthetic, and showed that it was useless except in tissue where it would be held for a sufficient time to make pressure on the nerve ends and drive out the blood. Because of the large amount of water required, the tissues were so distorted that an operation was difficult. A method for divulsing the sphincter under local anesthesia was described. The use of the actual cautery for the cure of hemorrhoids, ulcers, and other conditions that needed treatment was discussed, and the technique described.

Removal of the Uterus for Chronic Inflammation.—
 Dr. C. W. WELLS, of St. Louis, reported
 chronic retrosalpingitis. He advocated the removal
 of the chronically enlarged uterus, whose density and
 vascularity were increased, which, associated with
 chronically inflamed and altered tubes, caused local and
 general symptoms that made life burdensome. This
 was the condition for which, for a long time, he had
 been unwilling to advocate a procedure quite as radical
 as removal, and done in its place the so called conser-
 vative operation—partial removal of the tubes, resec-
 tion of the ovaries, and correction of retrodisplace-
 ments by various procedures. His results had not been
 good, often not even satisfactory, and for this reason
 he began to institute a more radical treatment.

The starting point of chronic retrolaparitis was practically the endometrium. The inflammation might primarily awaken the infectious agents or the predisposition to infection, especially by altered nutrition of the endometrium, the result of repeated congestions, faulty position of the uterus, subinvolution, growths of the uterus or annexa, or some general infection or constitutional debility. Removal of the uterus brought about entire relief, but much depended upon the technique of the operation. Three things must be imperatively observed: Removal of the uterus with practically all of its endometrium; avoidance of the large sympathetic pelvic brain, which, with its many central and visceral connections, was situated at the cervicovaginal junction; and complete closure of the peritonæum covering the pelvic floor in order to avoid bowel adhesions.

The best technique in the removal of the inflamed uterus was, according to the author, the following: After opening the abdomen by a median suprapubic incision, the tubes were tied off carefully, avoiding injury to the ovaries. A clamp was applied upon either side of the uterus, letting its tip reach well down to the cervix; the body of the uterus was freed from the broad ligament attachments by cutting along the clamps. Amputation was to be performed through the cervix by an exaggerated V shaped incision, the apex of the V reaching nearly to the external os. The cut ends of the uteroovarian artery loop were tied, after releasing the clamps, with catgut. The stump was closed, suturing to it the ovarian and round ligaments. All raw surfaces should be covered with peritonæum. Iodine catgut should be used as suture and ligature material. The author felt certain that he had seen considerable reflex irritation from silk and linen ligatures used in tying off the uterine and ovarian arteries.

The iodine catgut was to be preferred to

Ligation of the Common Femoral Artery for a Large Aneurysm in Scarpa's Triangle; Recovery.—Dr. L. J. [illegible] forty-two years of age, and exhibited the patient, who was [illegible] dating back ten years, also an [illegible] years before in the nature of a [illegible]. Examination revealed large pulsating

tumor filling the greater part of Scarpa's triangle, which the author diagnosed as an aneurysm of the femoral artery. He advised the removal of the patient to the hospital and at once began the administration of large doses of iodine of potassium suggested by the specific history. An effort was then made to induce coagulation by compression, with no result whatever. He then determined to increase the dose of the iodide of potassium, and to try the rest cure advised by some writers. Under this treatment the tumor remained stationary for a short time only, and then began to enlarge very rapidly. The author ligated the common femoral artery, without any further delay, just below Poupart's ligament. This was done on December 23rd. The patient did not present a single untoward symptom after that. All pain ceased, and the tumor began to decrease in size. The circulation in the leg and foot was apparently not disturbed. They had remained warm ever since the operation, and there had not been a sign of oedema at any time. In placing his ligature, he followed the suggestion of Hunter, tying it tight enough to check the pulsation, but still permitting some blood to flow through the tumor. At the end of four or five days, however, this was entirely shut off, and to-day there was a well organized clot, with perhaps a cavity at its centre. The patient left the hospital at the end of five weeks. He succeeded in keeping him quiet a few weeks longer, but at present the patient felt no inconvenience on account of the tumor.

The County Sanatorium for the Treatment of Pulmonary Tuberculosis.—Dr. RICHARD C. MOORE, of Omaha, said that the indications for the successful management of this disease were surveillance, disinfection, and appropriate means to increase the natural power of resistance. These indications could be followed out most satisfactorily by establishing and maintaining sanatoria. He called attention to the statistics of the deaths from consumption in several States, taken from the report of the Census of 1900. He believed that a sanatorium in Nebraska would be the means of saving many lives, and would be a centre from which information could be promulgated for the early management of such cases, and would thus in time, by instructing the people in prophylaxis and in the home treatment of consumption, greatly reduce the mortality from this cause. Theoretically, the modern treatment of pulmonary tuberculosis could be carried out in the home of the patient, but practically it had been the author's experience that it was impossible to convince the laity, and in fact many members of the profession, that night air was not injurious and that wind, rain, or snow should not be excluded from the apartment occupied by the patient when by such exclusion the free circulation of pure air was also shut out. To carry out this treatment, the patient must be placed in a suitably arranged apartment and be absolutely under the constant surveillance of a trained nurse or experienced physician. To meet this desideratum, the well equipped sanatorium was probably the best, but such institutions were very costly to construct and very expensive to maintain, which rendered them prohibitory in many communities. In Nebraska, where the consumptives, as shown by statistics, were not numerous, the cheapest and most practicable manner of taking care of such cases would be in properly arranged county hospitals. Instead of the ownership and management being under State charge, each county could take care of its own consumptives, as it now did of its indigent sick and paupers. What was needed to carry out this plan was a well drained site upon which the county authorities could erect suitable buildings for its tuberculous patients in connection with proper facilities for the culinary department and housing of nurses. The author was inclined to favor a plan similar to that suggested by Dr. Irving Fisher, of New

Haven, the main feature of which was an arrangement for ventilation by means of shutters, which were changed automatically with the direction of the wind. Mr. Kimball had given special attention to the construction of tents and wards for the modern treatment of tuberculosis, and had embodied in his plans many valuable and original ideas.

The Expectant Mother.—Dr. E. T. SHELLY, of Atchison, Kan., said that the physician owed it to the expectant mother and to himself to give her the best professional attention he was capable of bestowing. As a necessary part of such attention, he should, during the pregnancy, give her such guidance as her condition called for, and furnish it in a permanent and accessible form. The author spoke of the desirability of supplying the prospective mother gratuitously with an easily understood original pamphlet, issued by the physician himself, and giving her such information as, in his opinion, she ought to have in order that she might pass through her ordeal as comfortably and safely as possible. Such a pamphlet he outlined.

Rhachitis.—Dr. A. E. KING, of Blockton, Iowa, referred to the ætiology of rhachitis and to its part in the production of laryngismus stridulus, and spoke of the large number who were afflicted with this disease, and yet whose cases were not recognized by the medical profession. He pointed out the importance of making an early diagnosis and of instituting proper treatment.

The Surgery of the Paralyses.—Dr. JOHN PRENTISS LORD, of Omaha, said that the education of the general practitioner in this specialty had been limited, and therefore he had too little working knowledge of the benefits to be derived from surgical intervention. The deformities resulting from paralysis were all of a progressive character; therefore effective treatment instituted before the deformity began would prevent subsequent deformity. It was essential that the general practitioner should recognize that neglected paralysis would surely produce certain deformities, and measures should be taken to prevent or minimize their results. The mere maintenance of a limb in a corrected position not only prevented deformity, but prevented overstretching of muscles which, unstretched and treated, might be of some service. This was more especially true in spastic conditions. Paralyzed children were entitled to all that science could do for them, and even then the results were small. Oftentimes massage, electricity, bathing, movement, and use would do much in maintaining growth in bone, muscles, and ligaments, and limit deformity. The present tendency was to limit the use of apparatus and resort to such surgical measures as would render the limbs most useful. These operations should be judiciously applied to the individual cases and supplemented by such treatment as would furnish the greatest aid in completing the results. Time was a great factor, and proper knowledge should be displayed lest its proper use be abused and valuable time lost.

New Inventions

A NEW ASEPTIC SUBCUTANEOUS SYRINGE.

By JOHN SEBASTIAN DERR, M. D.,

CHARLOTTESVILLE, VA.

The following invention of a new aseptic case containing subcutaneous syringe, lamp, and tubes represents so many novel features that I wish to place it before the profession. The need of a subcutaneous syringe with which a thoroughly aseptic injection can be given at a moment's notice, and especially when conditions for surgical cleanliness are most unfavorable, is one which the medical profession realizes.

The apparatus is complete, and consists as it seems pointed out, and it will be in ready condition for use at all times.

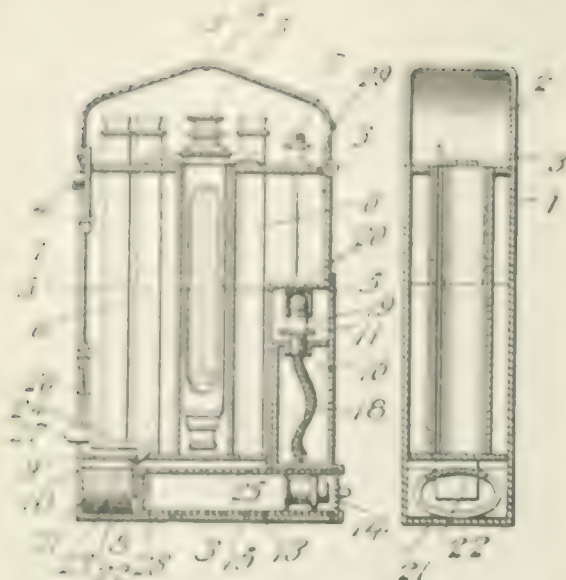


FIG. 1. Vertical section of the apparatus for sterilizing the lamp.

The apparatus is complete, and consists as it seems pointed out, and it will be in ready condition for use at all times.

submitted by H. H. and M. H. of Charleston, S. C.

Vertical Section. (Fig. 1) front end of case (1). The case of case 1, preferably aluminum; concave in shape. (2) Lid of case (1) with a spring attached there. When button (4) is pressed the top comes to a horizontal position, as shown in Fig. 1, with its deepest diameter over the lamp, when it has been withdrawn. The capacity of the top or spoon is to exceed the capacity of the syringe (5) by at least twice the capacity of the syringe. (6) Syringe. Better made of glass, as it is easier sterilized and easier to use. (7) Alcohol reservoir. (8) Case. This case is constructed for six, four in front and two behind the reservoir. The case is filled with alcohol of a certain strength so when dissolved in one half the amount of water (9) will give a solution of 1 to 1,000. (The remainder of the water may be poured into the spoon to be sterilized.)



FIG. 2. Horizontal section of the apparatus.

The apparatus is complete, and consists as it seems pointed out, and it will be in ready condition for use at all times.

when in use. (9) Is a septum, perforated in the middle line near the front for catch of button (27) to work through. Is complete, with above exception, from side to side, but not continuous anteroposterior by the thickness of the lamp in the back. (10) An oval, spiral, spring to push out the lamp when released by button (27). (11) Is a space contained between shield (17) and concave back of the case when lamp is in carrying position. (12) Is the summit of the spoon or top, concave on its inner surface to the degree that one drop of water contained in it, while horizontal, would rest over the lamp while out. (13) The horizontal part of the lamp, containing phial (15), which is pushed out by spring (21) when released by button (27), until projection (22) on lamp strikes shoulder (25); this places the lamp immediately under centre of spoon. (14) A door closing in water reservoir. (15) Is so thickened at the door that the lamp rests on the same level with the case, thus preventing the apparatus from turning over. (16) Bottle provided with a stopper, a mark etched on the side, shows how much water to dissolve one tablet in, in order to make a solution of 1 to 1,000 mercuric chloride. This bottle occupies nearly all the space in (13). (16) Alcohol reservoir, convex to fit

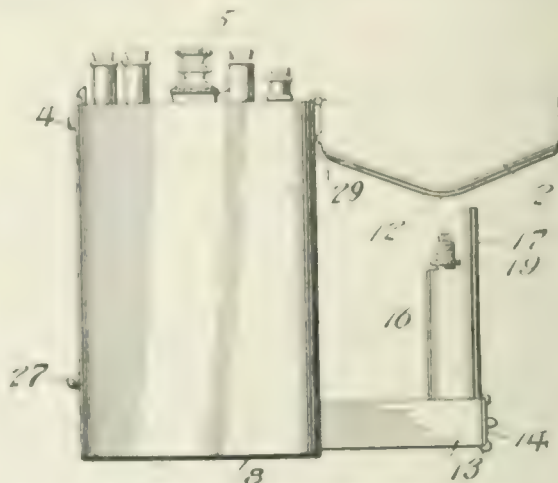


FIG. 3. Horizontal section of the apparatus, with lamp in place.

into concavity of the back of case. (17) Shield to protect light from the wind, etc., forms posterior surface of alcohol reservoir, and prevents dirt from collecting in (11). (18) Wick of lamp. (19) Burner of the lamp screwed into alcohol tank and provided with cap (20), to prevent evaporation. (21) Lateral surface of spring (10), the spring does not fill all of this space, thus allowing free expansion. (22) Projection on lamp to hold the structure in position by clamping of hook (23) on button (27), to hold the lamp well in the cavity, and to prevent the lamp from going beyond the required position (as shown in Fig. 1) by (22) striking shoulder (25). As is noticed (13) does not fill all the space wherein it is contained; rests on the bottom (3), the upper part being completed by (22), against under surface of septum (10). (24) Shaft of button (27). (25) Prolongation of back surface of the case to stop projection (22) at this place. (26) Spring of button (27) riveted to front of case being parallel with it. (27) Is the press button portion of the catch and projects through the front of the case far enough so when pressed level with the surface (22) will be released. (28) Opening in septum through which (23) passes; the hook rests against the back of the opening so when button (27) is pressed, arm (24) bends, thus elevating tip of (23) and releasing the lamp. (29) A projection on spoon to stop it at a horizontal position, as shown in Fig. 1.

Book Notices

Burdett's Hospitals and Charities, 1906, being the Year Book of Philanthropy and the Hospital Annual. By Sir HENRY BURDETT, K. C. B. London: The Scientific Press, Limited. Pp. xii+976. (Price, 6s.)

This is the seventeenth year of the publication of Sir Henry Burdett's very useful manual. So far as we have examined the volume, we find it true to the record of accuracy and fulness established by the preceding issues. It contains a great amount of valuable information which is not to be found elsewhere in a collected form.

Gefasskrisen. Von Dr. J. PAL, k.k. Primararzt und Vorstand der I. medicin. Abtheilung des k. k. allgem. Krankenhauses in Wien. Mit 7 Figuren im Text. Leipzig: S. Hirzel, 1905. Pp. 275. (Preis, M. 8.)

In this highly technical work, presenting the results of a large amount of difficult original observation, are considered a variety of symptoms and different diseases which have the common element of altered blood pressure as an ætiological factor or prominent clinical manifestation. The circulatory disturbances of chronic plumbism, arteriosclerosis, locomotor ataxia, hepatic and renal colic, nephritis, eclampsia, and cerebral hæmorrhage receive appropriate treatment. In the book are discussed many familiar facts from a novel viewpoint which is illustrated by a wealth of valuable clinical material in the form of detailed reports of cases. The newest methods of estimating and studying blood pressure are fully treated of.

Die Lokalanästhesie, ihre wissenschaftlichen Grundlagen und praktische Anwendung. Ein Hand- und Lehrbuch. Von Dr. med. HEINRICH BRAUN, chirurg. Oberarzt am Diakonissenhaus und Dozent an der Universität Leipzig. Mit 127 Abbildungen. Leipzig: Johann Ambrosius Barth, 1905. Pp. ix+436.

In this volume is contained a complete exposition of the subject of local anæsthesia, with a detailed description of the best technical methods for all the important surgical operations which can be performed to advantage without a general anæsthetic. There is an interesting chapter on sensibility and pain, and the author has made a careful study of the varying sensitiveness of the different tissues of the body, a field of research in which he has contributed a substantial addition to our modern knowledge of physiology. The relative merits of anæsthetic drugs are fully considered and the newer methods of Schleich and spinal cord injection are adequately treated. The work is clearly written and is profusely illustrated. It should be of value not only to the surgeon, but also to the general practitioner, for with its aid the latter can perform many minor operations without assistants or general anæsthesia.

Miscellany.

Is a Sense of Humor a Hindrance to Success in Medicine?—The Reverend John Watson, better known, perhaps, as "Ian Maclaren," has lately expressed the conviction that a sense of humor is a hindrance to practical success in life. He said that young men should congratulate themselves if they lacked this dangerous quality, but, if they had it, they should hide it behind a sustained and impenetrable solemnity until they achieved a competence, and keep it as a luxury for their foolish old age. As far as the medical profession is concerned, we are inclined to think that in a general way the creator of Weelum Maclure is right. The days are past when every self respecting doctor was expected to dress in a style tastefully blending the divine with the undertaker. But a "sustained and im-

penetrable solemnity" is still a priceless possession for those who would achieve success in medicine. If this is a natural gift, so much the better; if not, it should be acquired at any cost. Even in the darkest tragedies of human life there is often an element of comedy or even farce; and there are minds to which this element appeals with almost irresistible force. But a doctor has to concern himself not with the humor of a situation, but with the humors of the patient and his friends, and these he must treat with all due gravity. It is, of course, possible for a doctor to take his functions too seriously. The medical officer at the port of New York who the other day ordered an English sportsman describing himself as a jobmaster, and asking to be put down "job lots, or anything you like," to be detained that inquiry might be made into his state of mind, is a case in point. Himself, however, the doctor cannot take too seriously. A sense of humor is an obstacle to success by holding in check the egotism and self assertion which, if not in themselves proof of ability, are in these days necessary to secure its recognition. One of the most gifted men we have ever known did much harm to his professional reputation by an irresistible humor, which spared neither himself nor others; it discouraged serious minded students, and puzzled patients. That a sense of humor may be an inconvenience to its possessor is a truth to which eloquent testimony could be borne by Professor Osler, who has scarcely yet lived down his joke about the elimination of sexagenarians with chloroform. A keen sense of humor is apt to be a sore trial in medical practice where every kind of folly is encountered. The persons with confident notions about their "liver," the credulous with their wonder working quack medicines, the perversely ignorant who "don't believe in doctors"—all these have to be dealt with according to their folly. As George Eliot says, doctors have beyond most men the faculty of listening with perfect gravity to the most abject nonsense. This is a fine art which in most cases requires to be carefully cultivated. The cultivation is made easier by congenital want of that mental perspective and right appreciation of values that enables men to see the little miseries of our poor human life, which make up a large part of medical practice, in their true light. If, therefore, a doctor is afflicted with a sense of humor keen enough to render him an object of suspicion to people who "jock wi' deeficulty" themselves, and who resent a joke from any one else as an impertinence, if not an affront, he will do well to keep it jealously hidden from his patients and from the public.—*British Medical Journal*, February 17, 1906.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ending April 6, 1906:

Smallpox, United States.			
Places.	Date.	Cases.	Deaths.
California—Los Angeles.	Mar. 17-24.	6	
Florida—Jacksonville.	Mar. 24-31.	1	
Indiana—Indianapolis.	Mar. 18-Apr. 1.	6	
Kansas—General.	Feb. 1-28.	233	
Louisiana—New Orleans.	Mar. 24-31.	9	
Kansas—Leavenworth.	Mar. 1-31.	5	
Maryland—Baltimore.	Mar. 24-31.	1	
Massachusetts—Boston.	Mar. 24-31.	3	
Michigan—Ann Arbor.	Mar. 24-31.	1	
Missouri—St. Louis.	Mar. 24-31.	5	
Nebraska—Omaha.	Mar. 17-24.	1	
New York—New York.	Mar. 24-31.	2	
North Dakota—Grand Forks Co.	Feb. 1-28.	1	
North Dakota—Mellenville Co.	Feb. 1-28.	1	
Ohio—Cincinnati.	Mar. 23-30.	3	
South Carolina—Greenville.	Mar. 17-24.	2	
Tennessee—Memphis.	Mar. 24-31.	8	
Washington—Spokane.	Mar. 17-24.	1	Imported
West Virginia—Wheeling.	Mar. 24-31.	2	
Wisconsin—Appleton.	Mar. 24-31.	3	

WAITE.—In Cleveland, on Thursday, March 29th, Dr. Kent B. Waite, aged forty-two years.

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Original Communications.

THE CLINICAL AND MICROSCOPICAL VARIATIONS OF CHORIOEPITHELIOMA FROM A PRACTICAL STANDPOINT, WITH A REVIEW OF THE AMERICAN CASES.

By ROBERT T. FRANK, A. M., M. D.,
NEW YORK.

(From the Pathological Laboratory of the College of Physicians and Surgeons, Columbia University.)

I. INTRODUCTION.

Since greater watchfulness has been exercised toward the outcome of hydatid moles, postabortive hæmorrhages, and other pathological puerperal conditions, an increasing number of cases of chorioepithelioma have been reported in America. Yet the comparative rarity of the disease permits few men to observe more than one or two cases in a lifetime, and many physicians have never seen it at all. In spite of its infrequency, the high rate of mortality incident to this form of tumor makes it necessary for every one who practises either gynecology or obstetrics, and this will embrace the great majority of all medical men, to be in a position to recognize this pathological condition at the earliest possible moment. The clinical manifestations of chorioepithelioma are fairly uniform in typical cases, but many and great variations in the course, in the malignancy, and, as a result, in the final outcome are frequent. Consequently it is difficult to formulate any generally applicable rules for either the treatment or diagnosis of this disease. Ordinarily, in doubtful cases, the pathologist is invoked, as the court of last resort, to decide whether the given case is malignant or not, and this he can usually do by the aid of the microscope. In regard to these tumors of pregnancy, however, the question is not simple, as the distinction between pathological and normal formations is one of degree only, and at some stages is quite identical. Intimate knowledge of the tumors to be met with is therefore indispensable, and great familiarity with the many possible variations encountered in the course of normal pregnancies is also required.

This paper aims to call attention, first, to the various clinical manifestations of chorioepithelioma; second, to point out the main features of diagnosis by means of curetted particles or excised portions of metastases, etc.; and, finally, to draw attention to possible sources of error. Such interesting points as the theoretical significance of chorioepithelioma,

the development of our knowledge in regard to it, the occurrence of equivalent tumors in teratomata, all, though important, will be passed in this study in order to permit of a more detailed treatment of these purely practical considerations.¹

Any attempt to compress the extensive and rapidly multiplying literature of the subject into short compass will fail. Only such selected cases as have a direct bearing upon the points to be emphasized will therefore be mentioned. The reader is referred to Marchand (1), C. Ruge (2), Risel (3), Teacher (4), Münzer (5), Ladinsky (6) and Findley (7), etc., for references to the casuistic literatures.

A chorioepitheliomatous tumor of pregnancy may be defined as a neoplasm, which arises from some portion of the foetal covering (ectoderm), invading the tissues of its host, the mother. This definition is purposely somewhat vague and inclusive, as the primary tumor is not in all cases located in the same organ, nor is the minute structure always the same, nor does the degree of malignancy correspond to either of these factors.

Morphology of the chorion.—Every practitioner is probably familiar with the structure of the normal chorion, but a rapid review of its chief morphological and physiological properties may not be out of place. The chorionic villi are composed of a connective tissue ground work, carrying the foetal blood vessels. Upon this frame is placed the double cellular layer which, even under purely physiological conditions invades the adjacent maternal structures, be they the uterine wall, in normal pregnancy, the tubal wall or any neighboring tissue in ectopic gestation. The inner row of cells is usually composed of a single layer of low, sharply demarcated polygonal cells (known from their discoverer as Langhans' cells), containing an oval nucleus, surrounded by clear, glycogenic cell contents. The outer layer is sheet-like, showing few cell boundaries, and on section appears as a darkly staining series of giant cells, with multiple nuclei of very diverse size, shape and staining properties. In fresh specimens a minute ciliary margin has been detected. Bud like processes jut out from the free surface of the syncytium, as this plasmodial layer is termed. Collectively the two layers are called the trophoblast by embryologists. In the later months of pregnancy the two chorionic layers are no longer as clearly distinguishable as at first, but in favorable sections they may be recognized even at term. In the human embryo the villi cover the entire surface of the amniotic sac only during the earlier months of pregnancy, by the end

¹ For the theoretical and embryological significance of these tumors, see the author's article in the *Journal of the American Medical Association* for January 27, 1906.

of the blood vessel and passed to the placental area.

Despite the difference between the trophoblast and the maternal blood vessel, the trophoblast and the maternal blood vessel are both composed of both Langhans cells and syncytiotrophoblast cells. The difference between the two is that the trophoblast is a syncytiotrophoblast, and the maternal blood vessel is a syncytiotrophoblast. They are known as chori-

onitosis is derived from extravascular collections of blood, which are physiological, and later are replaced by the intravillous circulation. The erosive and lytic action of the trophoblast permits this invasion of maternal blood vessels and thus causes the formation of the syncytiotrophoblast. Quite frequently fetal cells are carried away into the maternal circulation of the mother, and according to Schmoll (9), particularly in eclampsia, produce minute emboli in the liver and lungs. Veit (10) has also described so called villous infarcts, formed



FIG. 1. A micrograph showing a cross-section of placental tissue. The image displays a complex network of blood vessels, some of which are filled with dark, granular material, likely representing fetal cells or syncytiotrophoblasts. The surrounding tissue is lighter and more uniform in appearance. The overall structure is highly irregular and porous, characteristic of placental architecture.

and syncytiotrophoblasts. Although no sharp boundary line can be drawn between maternal and fetal syncytiotrophoblasts, the line is at least indicated by the hemorrhagic condition of the tissues, areas of necrosis and a dense band of fibrin (Nitabusch's blood band), which is everywhere complete.

The history of the placenta and the general physiology of the placenta need not be considered in this connection, but only with reference to the trophoblastic cells as seen in us here. Before the fetal chorionic circulation is established the trophoblastic cells appear to secure their nutrition, and that of the maternal blood, from the tissues of the mother by means of the syncytiotrophoblast (Woodward, *l. c.*, Hofbauer, 8). As the regular maternal system is then established the

by stroma as well as epithelial covering, but lately some doubt has been expressed as to the frequency of this occurrence. Whether the proliferation of the active embryonic cells at their new site is ordinarily prevented by cytolytic substances elaborated in the maternal organism is still an open question (10a). At any rate proliferation in the lungs, for instance, has been demonstrated in but few cases (Schmoll *l. c.*), and then the placenta from which the emboli originated probably was diseased, i. e., had undergone hydatidiform degeneration.

Relationship of hydatid mole and chorioepithelioma.—This brings us to the intimate relation observed from the very outset between hydatid moles and chorioepithelioma. The ordinary hydatid shows

the ground work of the villus swollen, hydropic, and often containing either calcareous or hyaline areas. Macroscopically this accounts for the translucent grape like bodies. Microscopically, the œdematous, semifluid stroma contains occasional connective tissue cells of the embryonal type, fetal blood vessels and the above mentioned hyaline or calcareous areas. The villous covering may be normal, but more often a great increase in proliferation of the Langhan's cells and more numerous, more irregularly distributed syncytial buds, and, in general, a more luxuriant and atypical growth of the entire ectoderm has been noted. All varieties of transition between the normal distribution of the trophoblast and excessive and widely infiltrating proliferations are on record. (See Fig. 1.) The hydatid mole shows a similar diversity in its clinical course; some proving benign, others highly malignant, though the microscopical findings afford no guide to this. The great majority of hydatids are benign, some, however, invade the uterine wall, others produce metastases (Pick, 11), while a small number are truly malignant and cause death by general dissemination (Salowij and Krzyszkowski, 12). This last variety is to be distinguished from chorioepithelioma in those parts only, both at the primary site and in the metastases, in which a direct connection between the invading trophoblast and the hydropic villous stroma can be demonstrated. In sections, for instance, in which no part of the stroma happens to be included, the picture is that of a true chorion-epithelioma malignum.

Thus, by gradual transitions, all steps between the normal placenta, nonmalignant hydatid, benign but metastasising hydatid, malignant hydatid, and chorioepithelioma have been traced.

In chorioepithelioma the trophoblastic proliferation has reached its maximum and consequently more often loses its typical arrangement. The villous groundwork, which even in the normal placenta, is an inactive constituent and scaffolding for the blood vessels, has completely disappeared, the syncytium and Langhan's cells, as in all malignant growths, lawlessly invade and infiltrate the maternal tissues, but, unlike other tumors, show no tendency to form new vessels. The properties of the fetal ectoderm, previously mentioned, of invading, eroding and destroying the maternal bloodvessels are more actively displayed, and therefore extravasations of red blood cells and fibrin are much in evidence. The cell types are those of the normal trophoblast, such variations as are encountered will be referred to later.

Having disposed of these preliminaries, we will now consider the clinical course of the more typical types of chorioepithelioma, of which several hundred cases have been reported.

II. CLINICAL TYPES OF CHORIOEPITHELIOMA.

The typical course of chorioepithelioma malignum.—Commonly some time after the birth of an hydatid mole the patient again seeks medical advice because of repeated genital hæmorrhages. The bleeding may be profuse, copious hæmorrhages often alternating with sanious discharge. At this time the patient may or may not show signs of anæmia, the amount of blood lost influencing the general status, in the early stages, more than any constitutional

effect ascribable to the new growth. On vaginal examination the uterus presents an appearance varying between that of an early pregnancy of six to eight weeks, an early abortion, or simply that of chronic hyperplasia, with moderate enlargement. In a few instances the tumor formation has progressed more rapidly and caused a much greater increase in size of the uterus. The os is often patulous.

Unless the history of mole formation has attracted the attention of the practitioner, no symptom differing from the ordinary incomplete abortion, or post abortive endometritis will be elicited, though digital or instrumental exploration of the uterine cavity may bring to light fragments of tissue. These scrapings macroscopically will resemble retained placental rests, and, as will be shown later, their interpretation under the microscope is neither easy nor always decisive.

The natural course to pursue is to keep such a patient under observation, and if the hæmorrhages should continue in spite of appropriate treatment, as they usually do, a curettage will be performed. Under anæsthesia, with fully dilated os, the uterine cavity is found partially filled with crumbly hæmorrhagic masses, which project from the muscular wall and invade its structure to a varying extent. Complete erosion of the uterine wall with spontaneous, or instrumental rupture, or perforation, are therefore not uncommon complications.

If the patient should refuse more radical interference, at this stage, or if she had not sought medical advice until later, the clinical picture is found somewhat changed. The increasing hæmorrhages lead to an alarming condition of anæmia and debility, in some cases a true cachexia developing. Elevation of temperature, repeated chills, and a varying degree of sepsis or intoxication are the rule. Locally the uterus has increased in size, infiltration of the parametria and of the pelvis points to the progression of the process. Uterine contractions may at intervals evacuate fragments of the tumor, and are then followed by profuse and even fatal hæmorrhage. In nearly half of the cases vaginal metastases, of a characteristic appearance, develop early. These vaginal tumors resemble a varix, vary in size from that of a cherry to that of a chestnut, or even reach the dimensions of a hen's egg, are dark bluish in color, of firm consistence and not compressible. The mucous membrane over the mass may ulcerate, the contents spontaneously extruding, accompanied by bleeding, with immediate recurrence, or more rarely, with disappearance of the metastasis.

The further course will depend largely upon the degree of malignancy of the process, although the ultimate outcome may be influenced by the nature of the treatment. Untreated, general dissemination with metastases, most often located in the liver and lungs, bring on a fatal termination within a few weeks to months. Almost every organ and tissue of the body has shown secondary deposits, and a great variety of symptoms, depending on the location of the secondary tumors may develop. Pulmonary, brain and intestinal complications are the most frequent, if we except the local symptoms occasioned by the vaginal nodules. Sometimes the extreme anæmia proves fatal before extensive metastases have had time to develop. Six months is more than the average duration in the usual run of cases.

It would summarize the foregoing clinical picture of increasing tumor hemorrhage, after removal of the detached mass, the early appearance of vaginal



FIG. 1. Vaginal metastasis. (From a study of the histology of the tumor, showing the typical features of chorioepithelioma.)

metastases and progressive increase in size of the tumor are essentially characteristic to permit of early diagnosis and of radical treatment. In many reported instances, however, in fact nearly as frequently as after hydatid, chorioepithelioma follows an early abortion. As the fetal products of abortion are rarely preserved by the patient, and therefore it is impossible to examine them, no statistics showing the true frequency of hydatid among these early tumors have been compiled. Storch (10) has stated that four fifths of the misdiagnosed animal may be misnamed almost before the formation of the generation. Chorioepithelioma has been noted after normal term and as a sequel to premature labor and to ectopic gestation. In view of these varied etiological conditions, all of every day occurrence, and the independent of neoplastic formations, capable of producing profuse hemorrhages, the diagnosis is at all times rendered more difficult. If we now add that an atypical clinical course is frequent, some conception of the real obstacles to be encountered may be conceived.

The following cases, taken from the literature, will illustrate some of the great and incalculable variations. No attempt at a complete literary review has been aimed at, and only one example of each type is here mentioned, though it is given.

Primary chorioepithelioma outside of the placental site—commonly known as an ectopic chorioepithelioma,

shows distinct variations in its clinical course from the typical cases. Findley (*l. c.*) has collected twenty-one cases. The fatal case reported by Schmitt (11) will be used to illustrate this group. In his case the uterus, tubes, and ovaries were completely spared by the disease.

The patient, thirty-eight years of age, eighteen weeks past parturition, developed a small vaginal nodule. Death occurred within one-half year from metastases in the lungs, liver, kidney, and gut. The tumors were all typical of the type of chorioepithelioma.

In this instance curettage would have offered no diagnostic aid. Excision of the vaginal metastasis would have proven diagnostically useful, but even if removed very early probably would not have sufficed to alter the outcome.

In cases reported by Findley and others, a primary tumor was found in the uterine or cervical wall, unconnected with the placental site and separated from the mucous membrane by a layer of muscle tissue. The diagnosis was possible when vaginal metastases were noted, or when the increased size of the uterus called attention to the genital tract. In other cases, the true nature of the growth was first recognized at autopsy, during life no more accurate diagnosis than that of a disseminated malignant growth being made.

Chorioepithelioma as a sequel to ectopic gestation is extremely rare. Vassmer reported a case in which a vaginal metastasis first attracted notice (15).

The patient was thirty-one years old, had been pregnant five times, and for the last year complained of irregular hemorrhages, accompanied by pain in the right side. On examination the uterus was found small,



FIG. 2. Vaginal metastasis. (From a study of the histology of the tumor, showing the typical features of chorioepithelioma.)

the right ovary. A bluish tumor projected from the right vaginal wall, which a rounded mass, of the size of a child's head, was felt in the region of the right annexa.

The vaginal nodule was incised, the clots and tissue being turned out. Laparotomy exposed a right peritubal hæmatoma, and tumor like tissue in its vicinity. Hæmorrhages from the vaginal incision, and from the drained abdominal wound, followed by bloody sputum, produced death in twenty-four days. The vaginal metastasis showed chorioepithelioma, unfortunately the abdominal mass had not been preserved for examination.

As hydatidiform degeneration in ectopic gestation has been several times reported (16), chorioepithelioma arising on a similar basis, need not, therefore, occasion great surprise. The cases are infrequent and will always prove extremely difficult to diagnosticate.

Chorioepithelioma simulating ectopic gestation.—Chorioepithelioma may not only arise from ectopic gestation, it may also simulate this affection to a close degree. Such a case has been reported by Hörmann (17). The rupture of the uterine tumor produced an intraabdominal hæmorrhage, closely imitating that seen in tubal rupture, and with fatal termination.

The patient had been eight times pregnant, one and one half years ago she had been delivered of an hydatid mole. Irregular hæmorrhages persisted for a time, during the last four and one half months amenorrhœa replaced the bleeding, but there was some "prune juice" discharge. The symptoms for which this patient had been treated elsewhere were those of pelvic peritonitis. Palpation revealed a large soft uterus, with a boggy mass, of the size of a mandarin orange, on the right side. Immediately after examination, the symptoms of profound collapse developed, necessitating laparotomy. The abdomen contained one and one half litres of blood and a tumor on the right side, adherent to the gut. Although an hysterectomy and right salpingoophorectomy was performed, some tumor tissue had to be left behind, as it was intimately adherent to the intestine. Not until microscopical examination was resorted to was the diagnosis changed from ectopic pregnancy to chorioepithelioma. This patient developed symptoms of intestinal obstruction, and died three and one half months later from marasmus.

Amenorrhœa as the Primary Symptom.—Although uterine hæmorrhages have been mentioned as one of the cardinal symptoms of the typical cases, yet instances are reported in which amenorrhœa took the place of bleeding. The most noteworthy is the case of Fleischmann (18).

His patient was thirty years of age, and two and three quarter years previously had given birth to an hydatid mole. The succeeding menstruations were regular, but after three quarters of a year grew scanty and then ceased completely for the next six months. This case is otherwise also noteworthy. When first seen the uterus was of the size of a six to eight weeks pregnancy, and there was already a vaginal metastasis, which was at once removed. Curettage evacuated crumbly hæmorrhagic masses invading the uterine wall, which, it was thought, was perforated by the curette. No further operation was permitted, and yet the patient recovered. Ten months later she was in good health and menstruating regularly. Microscopically both the metastasis and the uterine growth were atypical chorioepithelioma.¹

The course of this case will again be referred to. What is of chief interest here, is the persistent amen-

orrhœa. A fatal case observed by Krebs (19) did not menstruate for two months, and was therefore considered gravid until other symptoms developed.

Chorioepithelioma following placental polyp.

Another group of cases deserve more attention than has hitherto been accorded to them. We refer to chorioepithelioma as a sequel to placental polypi. To illustrate this condition the case reported by Reeb (20) will be used.

A multipara, twenty-nine years of age, twenty days after normal labor, had a hæmorrhage which lasted for three days. A large fibrous polyp, nine centimetres long, was removed from the uterine cavity. Near the tubal opening a very thin spot was felt in the uterine wall. The diagnosis made at that time was subinvolu-



FIG. 4.—Curettings from incomplete abortion at the third month, retained three weeks in utero. The villi are well preserved, their stroma somewhat fibrous. Both Langhans' cells and syncytium show proliferation. To the right and below is shown an islet of Langhans' cells and chorionic wandering cells. The entire mass is traversed by fibrin, red blood cells, "shadows," and leucocytes.

tion with retained decidua. A month later a recurrence of the hæmorrhage necessitated a curettage, the fragments obtained proving to be chorioepithelioma. An hysterectomy was at once performed, and a vaginal nodule, which had been noted, was also excised. Death occurred eighty-nine days post partum.

The other cases of this group show a nearly identical course. The fact to be borne in mind is that seemingly harmless placental polypi may prove the starting point or at least presage the beginning of a more malignant form of neoplasm.

Duration of latent period.—The variations in the rapidity with which chorioepithelioma may develop after hydatid or other pregnancy is only equalled by its variations in malignancy. Sandberg (21) (see American literature) reports a case in which the latent period was of five and two third years' duration. This patient was fifty years old. Schlag-

¹ In a second communication (*Monatschrift für Geburtshilfe und Gynäkologie*, xxi, p. 353, 1905) Fleischmann reports that this patient was subsequently delivered of normal twins, and now, two years and eight months after the above mentioned operation, is in the best of health.

bladder, etc., and the same kind, accompanied a case in which death occurred three days after a labor at term. Some of these cases are interesting. According to the statistics of Lefkowitz (23), the average time termination after mole was within six months after abortion within five months, after hysterectomy four months.

It has been usual to consider abortion, notably in Friedman's (25), that the woman's future degeneration as the greatest which is often noted in the course of benign mole and chorioepithelioma, was of value in making a diagnosis. The change is usually later than the abortion occurring a average stage, later

Termination in the capacity and malignancy.—Toussier, Lefkowitz, and Flatau have estimated that fifty percent of patients operated on are cured. This would compare favorably with other malignant diseases, especially with carcinoma, if we take into consideration that some of the cases had already developed vaginal metastases. The usual criteria applied to carcinoma cannot, however, be transferred to chorioepithelioma, for in some instances this tumor form has earned the title of chorioepithelioma benignum. In the case of Fleischmann's already referred to, the vaginal metastasis was removed, but the uterus next (excised) (25), recovery following

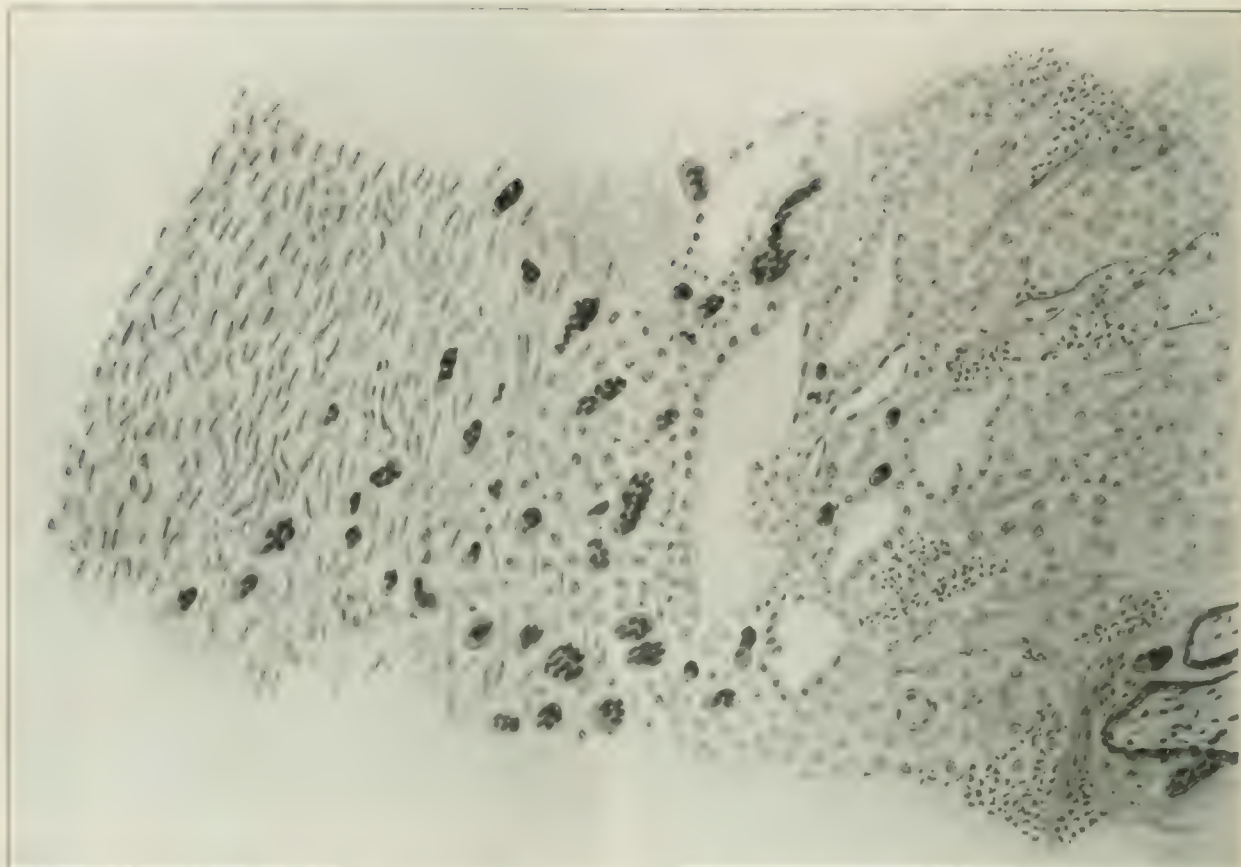


FIG. 1. Photomicrograph of a section of the tumor, showing the characteristic features of chorioepithelioma, namely, the presence of numerous small, dark, round nuclei, and the absence of normal chorionic villi.

recovery, but in a woman who died of fatal pneumonia five months after the operation, the uterus was not removed. The necropsy showed the growth had invaded the lungs, but a liver composed of normal tissue and a heart and lungs which had two chorioepithelioma.

times attaining the size of a fist. Ovarian cysts of the serous type are, however, so common in all conditions that no great stress can be attached to their presence from a purely clinical point of view.

The benign chorioepithelioma, as recorded cases (24), is more of theoretical interest than of practical value. If this condition should be found by curetting a uterus, and a vaginal metastasis removed, with the hope of quick recovery from the morbid condition.

Some patients in the course of this disease might be said to great numbers; the most important clinical variation have been seen. A few important observations bearing upon the malignant character of the condition, as the effect of the tumor on the uterus, before coming to the conclusion of the tumor.

In Marchand's (26) case, in which a hysterectomy was performed by Everke, the operator was obliged, from the nature of the extension, to leave considerable tumor tissue unremoved in the parametrium and in the large pelvic veins (as was noted on the specimen), yet full recovery resulted. Noble (27) in a case he considered inoperable, after opening the abdomen, left parts of the growth which were intimately adherent to the bladder; nevertheless full recovery took place. Dunger (28) removed the uterus in his patient, but when two months afterward a vaginal nodule appeared, the woman obstinately refused to have it touched. Later this patient was found in the best of health with a firm cicatrix at the site of the nodule, which had disappeared.

On the other hand, many cases have shown prompt recurrence and a fatal termination after apparently

radical and complete removal of all tumor tissue. Microscopically, as will be shown in the next section, no variation between the clinically distinct types can be drawn.

III. MICROSCOPICAL DIAGNOSIS OF CHORIOEPITHELIOMA.

Types described by Marchand.—In concluding the introductory section, variations encountered in the morphology of chorioepithelioma were referred to. Marchand (*l. c.*) has furnished a classification, which is generally accepted and appears to embrace all hitherto discovered types. The typical form closely imitates the trophoblast of the earlier months of pregnancy, showing a tissue composed of Langhan's cells, intermixed or traversed by large syncytial masses, containing also chorionic wandering cells, and hemorrhagic and necrotic areas. In favorable sections erosion of maternal blood vessels, Langhan's cells in the lumen of small veins, and, in general, where the invasion of the uterine muscle can be traced, an appearance, resembling to some degree the proliferation of a carcinoma can be observed. (See Fig. 2.) Nearly everywhere the intimate relation of the individual cells to fibrin is plainly shown. Nowhere is there any indication of a new formed connective tissue or vessels, such as is seen in other neoplasms. In the atypical form the Langhan's cells are less numerous, large syncytia are infrequent or absent, and a more diffuse invasion of the maternal structures, by cells of the type of chorionic wandering cells, large mononuclear or polynuclear, deeply staining cells giving the impression of a sarcomatous tissue, are noted. These cells show a marked tendency to attack the smaller blood vessels, and are characterized by great variations in size, shape and appearance of the nucleus or nuclei. (See Fig. 3.) Intermediate forms, in which a preponderance of either of these types may appear, are not infrequent. Some authors (29) have described purely syncytial tumors but Marchand believes it likely that, at least in some portion of these growths, Langhan's cells can be discovered.

No difficulty ought to be encountered in determining that a circumscribed tumor, invading or entirely within the wall of a removed uterus, is a chorioepithelioma, especially if it be of the typical variety. Likewise it should not prove difficult to diagnose an atypical chorioepithelioma even if it is a diffusely distributed neoplasm, when the entire uterus is at our disposal. In practice, however, we are usually limited to such information as can be gained from small particles (curettings, expelled masses) unless an accessible (vaginal, labial, or cervical) metastasis has appeared and has been removed for examination.

The recognition of normal curettings.—Before we can hope to distinguish the curettings obtained from a chorioepithelioma from the curettings derived from a normal or a pathological pregnancy, we must be acquainted with certain, not generally recognized, findings. The clinical data must also be taken into account, especially such facts as refer to an antecedent hydatid mole and to the interval between the obtaining of the specimen and the date of the pregnancy or abortion. Of value is reliable information that the products of conception were completely expelled or removed, that the uterine cavity at the time

of abortion or pregnancy was entirely emptied and was observed to be smooth and without polypoid or sessile elevation noticeable either to the curette or to the examining finger. When subsequently tissues are obtained from the uterus, and these precautions had been observed, we know that the last specimens must be new formed.

Extent of invasion of the normal ectoderm.—In normal pregnancy the chorioectoderm not only invades the uterine decidua, but also in many spots, breaks through this barrier, penetrating into the muscle in the form of cell columns, appearing on section as cell islets, and still more peripherally is represented by isolated chorionic wandering cells be-

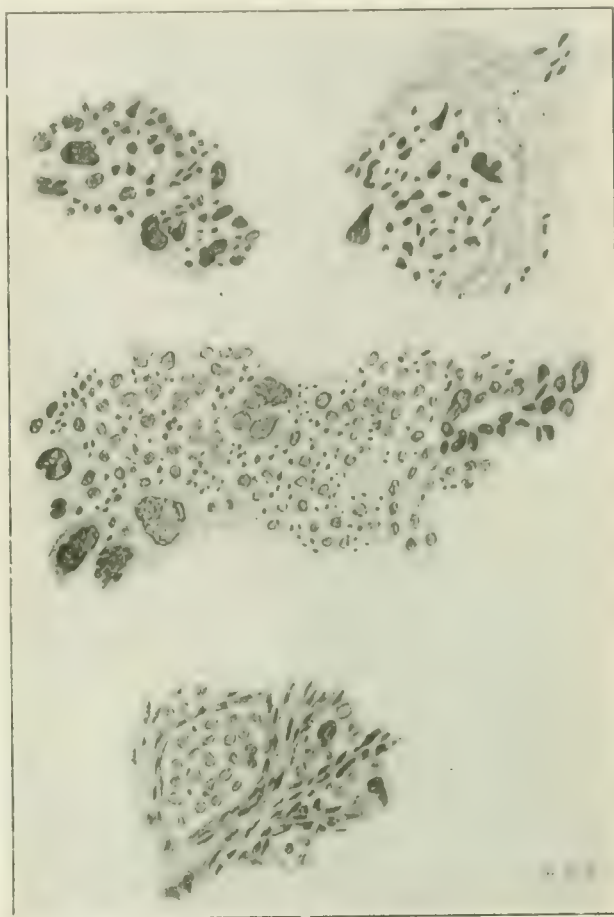


FIG. 6. Curettings from a carcinoma of the cervix and body of the uterus resembling atypical chorioepithelioma (case of Prof. F. C. Wood). The three upper figures show the striking similarity of the polymorphous cells of the carcinoma respectively to syncytium, chorionic wandering cells, and of combined syncytium and Langhan's cells. Below is shown a section from the cervix, which clearly demonstrates by its alveolar carcinomatous arrangement the true nature of the growth.

tween the individual muscle fibres. Areas of isolated proliferating cells, in the muscle, are more common in the early months than at term, but great variations are encountered.

After complete abortion or labor at term regeneration of the endometrium begins at once. Of this complex process only that part which refers to the disposal of the foetal elements is of interest in this connection. For a variable number of days chorionic wandering cells are regularly found in the decidua at the placental site. Gradually they become less numerous, and by the twelfth to twenty-first day

They are generally not larger than 500 microns (100 microns = 1 mm.). Wimmer (32). The most common report being retained changes during involution of the uterus, but some real or feigned retention is frequently met. To the inexperienced observer the decidua cells may resemble chorionic villi. At this time, when undergoing involution, decidua cells are in a degenerating stage. They can always be distinguished from Langhan's cells. Characteristic for the decidua cells, is their great variation in size, and absence of division in typical stages. The Langhan's cells, on the other hand, are of very uniform size.

When retention is complete, the portions of a placenta which are retained, regeneration of the endometrium may be delayed, or at least undue persistence of foetal elements may be looked for. The retained placenta rests may show few or even no signs of degeneration, their epithelium may appear in active growth, and yet the condition be nothing more serious than a retained placenta or placental polyp (Schickele 33). More commonly, however, the villi are surrounded by clots, their epithelium is separated from the decidua by fibrin and disintegrating material, the cells take the stain but poorly, and only in the decidua serotina (the actual placental site) do the foetal giant cells retain their vitality (Schickele 33). (See Fig. 4.)

So-called placental polypi are formed by retained placental tissues, which are moulded into polypoid shape by the involuting and contracting uterus. Small but repeated hemorrhages may serve slowly to increase their bulk. From numerous observations it appears certain that the foetal ectoderm can continue to grow after the death or expulsion of the fetus (Merrins 34, G. Ruge 35, Gracie 36). In consequence very puzzling tumors result, composed of villi with well preserved and often proliferating epithelium, and attached at their base to a thick decidua layer, which is infiltrated by a large number of giant cells. They are also by isolated groups of Langhan's cells. The bulk of the tumor consists of fibrin, either in the form of solid strands or well canalized. The stroma of the villi is commonly very fibrous, containing few cells, and completely devoid of blood vessels. Leucocytes and red blood cells in various degrees of degeneration are numerous. The invasion of the connective tissue and muscle of the uterine wall by the chorionic wandering cells gives the impression of malignancy, not usually in keeping with the benign nature of these tumors. (See Fig. 5.)

Most recently mentioned, a chorioepithelioma has been traced to the placenta, a tumor to supposedly benign polyps. The destructive placental polypi described by Kellgren (37) and others, were true chorioepitheliomas, from the outset, which through their development assumed a pedunculated form. The tumor, if composed of very polymorphous cells, is a chorioepithelioma in a striking manner (Gebhard 38). The smaller cells resemble the Langhan's cells, and the large irregular, multinuclear cells are morphologically identical with the Langhan's cells. Where interspersed with hemorrhages, the similarity is evident, but at the periphery typically alveolar carcinomatous arrangement with a dense, vascularized stroma. (See Fig. 6.)

Bearing in mind these numerous facts we are justified in regarding with suspicion cases of syncytioma or deciduoma in which the curettages or the excised uterus, obtained a few hours to a few days after pregnancy showed Langhan's cells and syncytium, and in which the subsequent course proved normal. On the other hand the literature contains many instances of unnecessary delay, the records showing that at successive curettages large masses of placental tissue were repeatedly evacuated, radical measures being put off until all hope of cure was in vain. In this latter class of cases the microscope is hardly needed to suggest the proper method of treatment.

(To be concluded.)

RENAL CALCULUS: SYMPTOMS AND TREATMENT.

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There are certain surgical conditions of which the symptoms never vary, such as those due to the division of a motor nerve or tendon; on the other hand, not infrequently, both objective and subjective symptoms vary so widely that accurate diagnosis is impossible. To this latter category belong many cases of renal calculi, for although typical cases are seen, yet the atypical are more common and their diagnosis most baffling to the surgeon. The difficulty in diagnosis is still further increased by the fact that the classic symptoms of stone in the kidney are encountered in other conditions—a fact that leads to unavoidable confusion, and to the performing of numerous exploratory nephrotomies.

Owing to the discrepancy in symptomatology, a brief statement of the typical symptoms of renal calculus seems desirable, if for no other reason than that they may serve as a standard of comparison with the symptoms of those cases which form the basis of this paper. They may be grouped as (1) those due to the presence of one or more calculi in the kidney or its pelvis; (2) those due to their attempted or successful passage through the ureter into the bladder; (3) those due to the temporary or permanent obstruction of some part of the ureter.

(1) Those due to the presence of calculi in the kidney or pelvis. The patient complains of localized pain, dull aching in character, referred to the lumbar region posteriorly. The pain is increased by different kinds of rough or jolting movement, and ceases or decreases with rest especially in the recumbent position. On irritation and subsequent inflammation of the pelvic wall by the rough surface of the calculus or through its movement, the pain becomes sharp and lancinating, and radiates along the crest of the ileum, following the course of the ilioinguinal nerve to the testis or to the inner side of the thigh.

There are occasional attacks of hæmaturia, the blood being in sufficient quantities to attract the attention of the patient. The blood is either diffusely distributed through the urine, or occurs in elongated clots, representing imperfect casts of the ureter. In the latter event the temporary stoppage of the ureter by a clot of large size may cause an attack of renal colic.

Hæmaturia is most common in those cases where,

owing to friction between the wall of the pelvis and the roughened surface of the calculus, the pain is sharp or knifelike in character. There is an increase in the frequency of urination, more marked during the day and at times of physical activity than at night or at times of rest.

Objective Symptoms.—There is slight rigidity of the overlying rectus in front, or of the posterior portion of the abdominal muscles behind. This symptom is most pronounced when the pain is sharp, and is least marked or altogether absent when the pain is of a dull aching character. Tenderness on pressure in direct ratio with the degree of rigidity is also sometimes present. Pressure on the tip of the twelfth rib may also elicit tenderness.

The most important and constant objective symptoms are elicited by catheterization of the ureters, and the subsequent analysis of the urine obtained from either kidney. Thus, in the passage of the catheter through the ureter and into the pelvis, a characteristic click may be elicited when the extremity of the instrument comes in contact with one or more calculi, while subsequent analysis of the collected urine shows asymmetry not only as to the quantity, specific gravity, and color, but also an asymmetry in the quality of the individual solid constituents, as well as the presence of abnormal crystals in the urine of the affected kidney. Unfortunately, however, catheterization of the ureters demands special apparatus, and unusual skill and practice in technique, and for that reason its use must always be restricted to a few experts.

Of almost equal importance is the demonstration of the calculus by the x ray, almost always pathognomonic whenever a shadow is obtained, but not necessarily excluding the presence of a stone when no shadow is found. Again, the application of this symptom requires consummate skill, and special preparation of the patient. In very fleshy patients, and in children who find it difficult to remain quiet for a sufficient length of time to secure good exposure, satisfactory results cannot always be secured.

Of the less frequent symptoms are those due to the temporary or permanent stoppage of the lumen of the ureter. In these cases temporary impaction results in intermittent hydronephrosis, a condition which, while it lasts, prevents the normal discharge of urine, and leads to a distention of the pelvis and calices. This distention ceases as soon as the impaction is relieved, and the accumulated contents of the distended pelvis are then expelled onward into the bladder.

Such temporary obstruction causes severe, sharp, constant pain, referred to the lumbar region, and occasionally radiating down along the crest of the ileum. There is also exquisite tenderness both in front and behind, and the approximation of the fingers in the ileocostal space in bimanual examination is impossible. Only under an anæsthetic is it possible by such an examination to detect the presence of the elastic swelling in the region of the kidney.

There are also the usual symptoms of moderate fever. The temperature rises to 102°, with considerable prostration. The urine is diminished in quantity (verging on reflex suppression), but of normal quality, inasmuch as it is the secretion of the normal

kidney. Should the urine have been previously bloody or of dark color, the sudden cessation of blood, and the equally sudden change in color, may attract the patient's attention.

The pain ceases and the other symptoms subside as soon as the impaction is relieved, which generally occurs within twenty-four hours, but moderate tenderness persists for several days afterward. With the cessation of the pain the quantity of urine first voided is considerably larger than normal, inasmuch as it includes, in addition to the secretion of the normal kidney, the fluid that has collected behind the impacted calculus. It is also of lighter color and of lowered specific gravity, and almost always contains a little blood.

Ureteral examination during the attack is possible only with the aid of a general anæsthetic. It would conclusively demonstrate the absence of any secretion from the affected kidney. The continued introduction of the catheter into the pelvis of the organ might detect the cause of the obstruction through the sharp stony impulse which the end of the instrument receives when it comes in contact with the calculus.

In the enumeration of these symptoms it is proper to emphasize the fact, first, that identically the same symptoms result from the temporary interference with the outflow of urine in cases of abnormal kinks or angulations of the ureter, a condition which occasionally develops in movable kidney; and, secondly, that such attacks are much more frequent in this condition than in stone, inasmuch as calculi are not inclined to engage in the beginning of the ureter. They either pass down into the lower ureter or bladder, or their larger size precludes any movement beyond the pelvis of the kidney.

The permanent impaction of the calculus at either the beginning of the ureter or at a point opposite the brim of the pelvis, or just before its termination in the bladder, is uncommon, and is usually preceded by one or more attacks of temporary impaction, until finally the hydronephrotic sac can no longer discharge its contents, and a tumor, gradually increasing in size, appears in the ileocostal space, presenting well known cystic features, and situated just posterior to the colon. This condition, like that of intermittent hydronephrosis, is more frequently associated with other forms of ureteral obstruction than with obstruction due to a calculus. When it is due to a calculus, the impaction is most likely to occur in the lower part of the ureter.

The symptoms of renal colic are so well known as to require no special description.

Finally, although the exception, even in cases of long standing, infection may be carried to the kidney either through the blood or from the bladder and ureter, and abscess of the kidney result. This may take the form of an infected hydronephrosis should such a condition preexist, or of a primary pyonephrosis should the ureteral orifice become obstructed by small masses of inflammatory material, or of a suppurative nephritis when the purulent foci are generally distributed throughout the entire organ.

In all of these conditions the symptoms are practically identical, consisting locally of the more or less rapid development of a smooth, lobulated tumor of variable size, in the kidney region, with pain, tenderness, elasticity, and fluctuation, while the con-

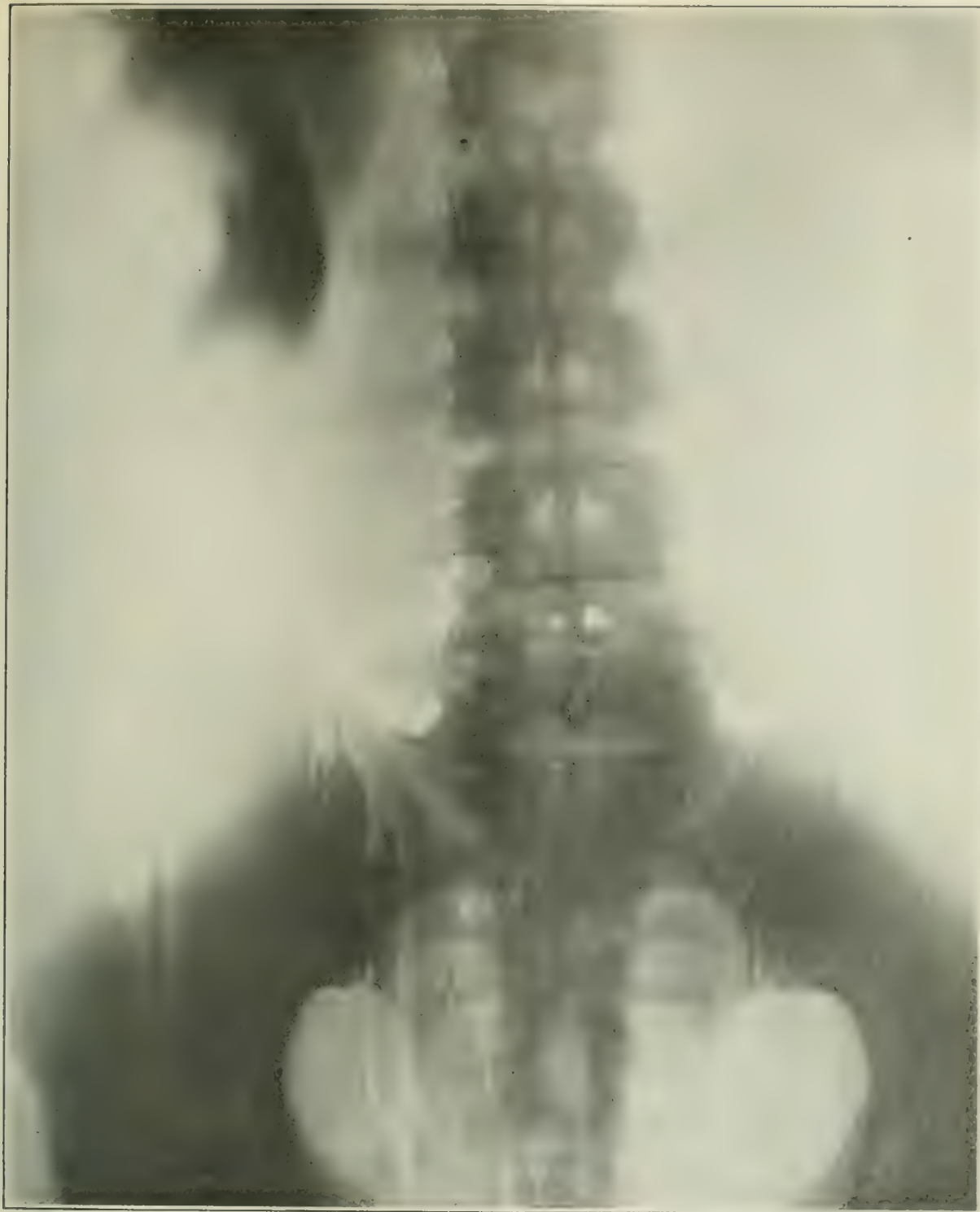


FIG. 1. Case 1 (through the courtesy of Dr. A. B. Johnson).

peared. For one year afterward the patient was most comfortable, but during the past year the pain has recurred and is getting worse.

Three years ago an x ray, taken by Dr. A. B. Johnson, revealed the shadow of a large calculus in the left kidney. At no time has the patient been willing to submit to catheterization of the ureters.

Examination of the urine shows the presence of a small amount of albumin, of pus, and of mucus. It is of normal specific gravity, and the daily quantity of urea is not diminished. There are no casts. Repeated

examinations have failed to discover the presence of any crystalline deposits. It is usually acid in reaction, and of normal color.

On examination, there is some tenderness on deep pressure over the left kidney. At times there is moderate rigidity of the overlying rectus, continued down over the course of the ureter. No enlargement of the kidney can be made out. The x ray shows a large shadow in the region of the affected kidney.

Operation under nitrous oxide gas and ether. The left kidney was exposed through a vertical incision

charge contained urine until the fourteenth day. At the time of discharge, four weeks after the operation, a small sinus only remained. The patient has been in excellent health, and able to work without interruption since leaving the hospital.

Urine after operation. First day: Acid; bloody, opaque, dark red, sp. gr., 1.032; albumin, 17 per cent. (by volume). Fourth day: Acid; amber; no albumin, sp. gr., 1.025. Microscopically, few red blood cells. Eleventh day: Sp. gr., 1.015, clear, and free from blood.



Renal Stone.
Weight, 0.966 gramme. Composition. Calcium oxalate and little uric acid. Nucleus. Uric acid.

Twenty-first day: Sp. gr., 1.024; clear, and free from blood.

CASE III.—L. J., female, aged thirty-nine years. Referred by Dr. David Bovaird. Admitted to the Presbyterian Hospital, March 26, 1900. Last September the patient complained of obscure pain in the lower part of the abdomen. Examination revealed a retroflexion of the uterus, and a ventral fixation was done. The pain, however, still persisted, and became localized in the right lumbar region, occurring in attacks at intervals of from two to five weeks, and lasting from three to five days, without confining patient to bed. The last attack occurred five days before admission. Three months ago patient noticed a trace of blood in the urine, but there has never been any solid sediment. There has never been increased frequency of micturition, but occasionally, for a day or two after an attack, micturition has been painful. The patient is very fleshy, and satisfactory examination is quite impossible. On deep palpation, there is some sensitiveness over the right kidney. Repeated examinations of the urine give the following results:

Two days before operation: Sp. gr., 1.040; alkaline; straw color; cloudy; white precipitate; faint trace albumin; triple phosphates. One day: Sp. gr., 1.032; acid; amber; cloudy; traces of albumin; few oxalate of lime crystals; epithelium.

No x ray nor catheterization of the ureters were then practised.

Operation under nitrous oxide gas and ether. The kidney was exposed by the vertical incision parallel to the quadratus muscle and found to be quite mobile. The pelvis was carefully palpated, but no calculus could be felt. The kidney capsule was split, and the usual nephrorrhaphy completed with chromic gut. Closure.

Postoperative. Slight reaction. Urine diminished in quantity for the first twenty-four hours after operation, but otherwise unchanged. At time of discharge, one month later, there had been no recurrence of the pain.

December 10, 1900: The attacks of pain in the right lumbar region and the right side of the abdomen still occur, but are less frequent.

March, 1902: Since the last note, patient's condition is unchanged. The pain is, however, more severe, and patient desires, if possible, to be relieved. Examination by the x ray now shows the presence of a distinct shadow in the vicinity of the right kidney. (Dr. A. B. Johnson.)

Operation under nitrous oxide gas and ether. The

previous scar in the lumbar region was excised, exposing the kidney. This organ was very firmly bound down to the surrounding tissues, making its enucleation very difficult. In the attempt to expose the pelvis a large renal vein was torn, and a nephrectomy was done with some difficulty, owing to the firm adhesions. Clamps were left *in situ*, and the wound partially closed. A calculus, the size of a bean, was found in the pelvis of the removed organ.

Patient reacted well from the operation. The clamps were removed at the end of the forty-eighth hour without further oozing. Ten days after operation the urine amounted to 50 ounces daily, and the patient's general condition was excellent. The wound had closed by granulation at the end of the sixth week.

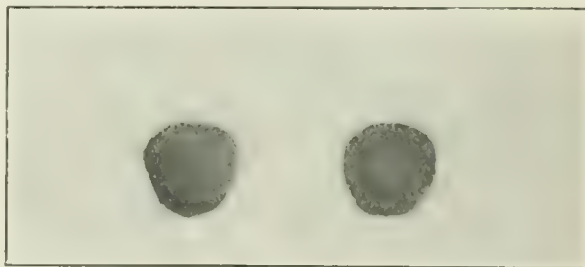
Examination of the removed kidney showed it to be moderately cirrhotic, the intima of some of the arteries being thickened. The calculus was composed of calcium oxalate, and its structure showed that it had probably been in existence prior to the original operation of ventral suspension.

Examination of the urine subsequent to operation: First day: Sp. gr., 1.024; acid; amber; cloudy; two per cent. albumin; few hyaline casts; much pus; few red blood cells. Second day: Sp. gr., 1.016; neutral; traces of albumin; otherwise same. Seventh day: Sp. gr., 1.020; alkaline; traces of albumin. Fifteenth day: Sp. gr., 1.020; alkaline; faint traces of albumin.

The patient has been completely free from pain since the operation.

CASE IV.—J. L., male, aged thirty-one years. Admitted to the hospital April 4, 1902. Previous history negative until twelve years ago. At that time patient suffered from attacks of severe sharp pain in the left side of the abdomen and lumbar regions, causing him to lie down and cry out. The pain was accompanied by soreness in both testes, and persisted over the left kidney after it had disappeared elsewhere. The attacks were repeated monthly for three years, and were of from one to two hours' duration. There was no change noted in the character or quantity of the urine during the attack, but frequently afterward it would be smoky for several days, although blood was never noticed. At no time was there increase in the frequency of micturition. The attacks were not accompanied by any constitutional disturbance. In the interval there was dull aching pain over the region of the kidney, exaggerated by rough riding.

Nine years ago the attacks became more frequent, but less severe and of shorter duration, the pain in



Renal Stone.
Weight, 1.435 gramme. Composition. Uric acid and little calcium oxalate.

the interval increasing. About seven years ago the attacks suddenly ceased, and did not recur until several months ago, the last attack being one month ago. Since the recurrence there has been for the first time some increased frequency of micturition, noticeable on two occasions during the night.

On examination, there is slight tenderness over the left kidney, and the x ray shows the shadow of a calculus.

pain returned, and radiated to the tip of the penis. At that time the pain was so persistent as to confine the patient to bed for four weeks.

In Case III only did the pain remain localized to the lumbar region. In Case I it radiated along the ilioinguinal nerve, but not to the testis or inner side of the thigh. In Case V it radiated toward, but not to, the testis. In Case II it reached the testis, which was retracted during the attack. In Case IV there was pain and soreness in both testes.

In Cases I and V there was a history of blood in the urine in considerable quantity during infancy and childhood respectively, but not later on. In Case II the blood was only microscopic. In Case III patient noticed blood only on one occasion, and in Case IV the urine was frequently smoky between the attacks, but never contained actual blood.

In no case was there increased frequency of micturition except in Case I (a nervous patient), where, occasionally during the day, patient passed urine more frequently.

On examination, some tenderness on deep pressure over the kidney was elicited in all, and in Case V, shortly after an attack, some rigidity of the overlying rectus was noticed. In Case I soreness was referred posteriorly, and in Case IV a dull ache was noticed in the interval between attacks.

Analysis of the duration of these separate cases shows as marked variation as do their symptoms. In Cases I and V, the history as well as the pathological findings at the time of operation point to calculi of fifty and twenty-three years' duration respectively. In Case II the history extended only over two years, but the calculus, from its laminated appearance, had evidently been in existence for a longer time. In Case III the calculus probably antedated the operation of ventral suspension of the uterus. In Case IV the history extends over a period of twelve years, although the calculus was not as large as in Case III.

The cases are also of interest from a consideration of the frequency of the attacks, their irregularity, and the total absence for a period of many years of symptoms of any kind. Thus, in Case I the patient enjoyed good health between his twenty-first and thirtieth years, which continued with decreasing amounts of mucus and pus in the urine for fifteen years longer. During the last five years of his illness the symptoms at one time were so pronounced on the right side (calculus on the left) as to lead to an erroneous diagnosis of a right movable kidney by a specialist in genitourinary surgery. In Case II the attacks occurred with increasing frequency. In Case III they occurred at intervals of from two to six weeks, and lasted for from three to five days, the shortest interval and the longest duration of an attack in any one of the five cases, probably due to the character of the calculus (mulberry). In Case IV the attacks occurred monthly of from one to two hours' duration for three years. The attacks then diminished in frequency, while the pain in the interval increased, and then all symptoms ceased for seven years. In Case V the attack was annual for eighteen years and no attack occurred for four years, and then the attacks recurred with increasing severity, so much so as to incapacitate the patient.

Probably such wide variability in the symptoms and course of these cases is to be ascribed to the

character of the surface of the calculus, its size, and its freedom of mobility within the cavity of the pelvis.

It is also most interesting to note that examination of the cut surface of each one of these calculi shows a succession of laminae or deposit of variable appearance and composition as the surface of the calculus is approached, a variability that is readily explained by irregular changes in the reaction of the urine and in the character and quantity of its precipitated solid ingredients. As a result of these "geological" transitions, the surface of the calculus is seen to have possessed varying degrees of smoothness and roughness at different times, a most potent factor in determining the dormant or active character of its clinical manifestations.

In three of the cases here reported the calculi were removed in the same manner, namely, through an incision in the posterior pelvic wall. Recovery promptly followed, the convalescence being free from any complication. A nephrectomy was necessary in Case III, however, owing to the extensive adhesions of a previous nephrorrhaphy, whereas in Case I, division of both the pelvic wall and the kidney parenchyma were necessary for the proper extraction of the calculus. In neither of these two latter cases was the convalescence unduly protracted. In addition, the writer has opened the pelvis in from between five and ten cases for conditions other than stone, in which prompt healing of the wound took place. Judging from this rather limited experience, the danger (mentioned by many writers) of a persistent renal fistula following pelvotomy seems rather remote as long as there is no obstruction in the ureter. The objection has still further been advanced that the removal of calculi by this route might be incomplete, in that other calculi, either in the parenchyma or some inaccessible part of the calices, might entirely escape detection. For this reason, as well as because of the possibility of a persistent renal fistula, the exposure and removal of calculi by an incision through the parenchyma into the pelvis has been advocated. Prior to the use of the x ray this objection had, either rightly or wrongly, considerable weight. During the past few years, however, the use of this method of diagnosis has usually determined in advance the extent of the pathological condition. Still further, it is the writer's opinion that, if present at all in the parenchyma, calculi are so numerous as to require nephrectomy, and that isolated calculi in this situation are very rare. In the latter event, moreover, small calculi, if situated on either side of the proposed incision for its removal, might as easily escape detection as if the incision had primarily been made into the pelvis directly. That such an incision is indicated, however, in calculi of large size, extending into the calices, cannot be denied, for it not only expedites its removal without fracture, but diminishes as well the possibility of leaving a portion of the calculus behind.

To the advantages of this route there has always been advanced the danger of hæmorrhage, the absence of which is one of the attractions of pelvotomy. In most cases, hæmostasis can readily be secured by the temporary compression of the kidney pedicle, as stated earlier in this paper, the compression not to be withdrawn until the divided parenchyma has been

Dr. John McH. Dean, of the St. Louis University, Dr. Wm. Deutsch of the Washington University, and Dr. H. G. Goss, assistant to Dr. Calc.

patients, all were reported as well or out of danger eight days after I left Rochester. Miss Alice Magaw, the expert anæsthetist, had the kindness to write me this pleasing piece of news, which, however, did not at all surprise me. I have learned by observation that patients operated on by the Mayos scarcely ever die, and I know that the mortality following their work is getting lower every year, until now it seems almost impossible to reduce it still further. The Mayos have learned to select their cases and not to operate unless they see a fair chance of success. Upon this last visit I saw William Mayo cut down upon the left kidney, knowing the right one to be almost destroyed by disease. He found the left kidney also badly involved, and sent the patient to bed without further ado. Had he found the left kidney normal, or nearly so, the right one could and would have been extirpated. I need scarcely say that all other methods of diagnosis had previously been exhausted. In fact, let me remark that the art of cystoscopy has been carried to a high degree of perfection at Rochester; it, and indeed all other diagnostic methods, have been studied by a carefully selected corps of specialists and are being constantly improved and perfected. At Rochester a scientist's heart is further gladdened by the beautiful demonstration which one can witness every day, given by Dr. L. B. Wilson, in the art of freezing, cutting, and staining fresh tissues. For instance, in ulcers of the stomach in from fifty-eight seconds to two minutes after excision, a microscopical diagnosis is made. Of course the diagnosis may sometimes require more than one section, but as a rule the pathologist can select the most suspicious looking part of a specimen with the naked eye.

Among the many physicians and surgeons who visit the Mayos are all kinds, from the most expert and renowned metropolitan surgeon to the plain country doctor who has brought a case for operation. There were usually from twenty to thirty spectators each day. In the afternoon these men sit in the hotel lobby of the small town and discuss what they have seen. There will always be some who are more interested in guessing at explanations of the reason why the Mayos have the enormous clientèle or material that every day crowds the operating room in the hospital, or crowds the waiting rooms in their town offices. At the hotels there are always many patients awaiting their turn to be admitted to the hospital.

Speculation is rife among the doctors as to the amount of the Mayos's income. I have never heard either Charles or William Mayo say a word about income, but that it must be very large is clear to any one who observes the workings of the establishment. Experts must be paid, and well paid, and that the Mayos do not hesitate at a price to get the best I know to be a fact. During my recent visit they wanted a man who is *facile princeps* in his line, but is now engaged at an eastern university. They at once offered him \$1,000 more than he is at present receiving. I hope that they will get a million in fees during the year, and if they do, one third of it will prob-

ably go to pay the expenses of the establishments and their corps of expert assistants.

The reason that the Mayos have scored the success which seems to many so very remarkable is very clear to me. Superadded to their own most remarkable talents, as surgeons, is the recognition on their part of the importance of exact scientific investigation of all the organs involved in any given case. For this purpose they have surrounded themselves with a corps of experts in diagnosis who are supplied with all the instruments of precision and apparatus that may be required for the examination of any part of the body. To me it would seem strange if they did not attract the thousands that annually seek help or health at their modestly and scientifically conducted establishment. What I like particularly is the beautiful and frictionless working of the machinery in all parts of the institution. The division of labor principle is again victorious, as it always will be in any line of human endeavor. It is only natural that the physician who goes it alone will marvel at the results achieved by the Mayos. They are pioneers and their example will be followed successfully everywhere on earth, as soon as men recognize the necessity of combining to pull together in their own interest, as well as in the interest of diseased and suffering humanity. We can have nothing but pity and sympathy for our poor colleague who, be it in the country or in a city, practises medicine or surgery on his own hook. He, poor soul, is consequently obliged to keep up the appearance of knowing it all to a public, alas, sometimes only too anxious to help along any kind of fakery, as witness the Christian Science cult, of recent birth and rapid growth.

A few days spent watching the work at Rochester, Minn., will demonstrate to any surgeon the great advantage of using the *autoptical* method of pathological study on the living over the *autopsical*, or necropsical, method. Aseptic surgery has given us material in plenty for the macroscopical and microscopical examination of tissues taken from the living and curable patient *intra vitam*. The post mortem, or autopsical, method of pathological research shows us, as a rule, only the terminal, or incurable, stages of disease. The former material is most valuable, but has been the reverse of plentiful, except at a clinic like that of the Mayos, where about 4,000 operations were performed during the past year.

As an instance of the advance in pathology to be made by the *autoptical* investigation of disease, let me cite the contribution on tuberculous peritonitis by the Mayos, published in 1904. I regard this as one of the most valuable contributions to pathology ever made by an American surgeon.

The system or method of cooperative examination, diagnosis, and treatment, as it has been carried out by the Mayos at Rochester, Minn., a small country town, must become the example for other men earnestly striving to achieve the best results in the practice of medicine or surgery, in the country or in a large city. Of course, a well equipped hospital is indispensable. We have all recognized that the home treatment of

...work of chronic is unsatisfactory, and that operations are in many cases inferior to hospital or constitutional treatment. This being granted, the scientific side of the Maxon will be followed. There can still be but by a generalization of scientific knowledge, backed by capital. The money investment will earn legitimate returns and the physician and surgeon, as well as the men conducting the special department will be well paid. I am that the early solution of many questions that now perplex and retard professional aims and ends. There will be no social effect, and the miserable, petty, personal interests will yield to the greater interests and the healthy between fully equipped scientists. The medical profession, as well as the public, will be better served; both will be elevated and benefited by the division of labor among men trained for the special lines of research; and the business management may perhaps be left to a large extent in clerical hands.

FOR FURTHER TREATISES.

THE BILE ACIDS AS A REMEDY.

BY ALFRED C. CROFTAN, M. D.,

CHICAGO.

On the Physiology of the Bile Acids.—The bile acids and their salts, while they appear in the bile in company with many substances that are simply excreta, partake themselves of the character of a secretion. They are apparently so valuable to the body that they are in great part reabsorbed from the bowel, performing an intermediary circulation from the bowel through the thoracic duct, the venous and arterial blood back to the liver, whence they are again secreted into the bowel.

That this is true is manifested by the following experiments quoted in part from my article *Some Experiments on the Intermediary Circulation of the Bile Acids, Etc.* (*American Journal of the Medical Sciences*, January, 1902):

1. A dog weighing one kilogramme excretes about four grammes of bile acids in twenty-four hours. Of this amount only 0.5 to 0.7 gramme will be found in the feces and an unweighable portion in the urine (Naunyn, Vogel, Hoppe-Seyler). As the bile acids do not readily undergo putrefaction, it cannot be assumed that they are destroyed in the bowel or the bladder. 2. If a loop of intestine is ligated at both ends, care being taken that the loop remains in connection with its mesentery, and bile acids are introduced by means of a hypodermic needle into this loop, it will be found that they are completely absorbed (Lappeiner). 3. Bile acid salts which are administered by mouth can be recovered a short time afterwards from the bile flowing from a biliary fistula (Schäfer). 4. Of the two bile acids, the one containing sulphur, the other does not. Dogs excrete the former almost exclusively. If, however, dogs are fed with large quantities of the sulphur free variety, it will be found that their bile removed through a fistula contains as much as from twenty to thirty per cent. of the latter, and that the majority that is thus secreted is absorbed from the

intestine to be reexcreted in the bile (Weiss, Prévozt, and Binet). We can conclude from these experiments that the bile acids are intended to fulfill some function both in the bowel and in the circulating blood.

In the bowel we know that the bile acids exercise chiefly three functions, namely: First, they act as a powerful germicide or antiseptic in so far as they hold the development of putrefactive bacteria in check. Second, they influence the peristalsis of the small intestine and consequently act as physiological laxatives by hastening the onward movement of the bowel contents. Third, they emulsify the fats and hence favor their proper assimilation.

Absence of the bile acids from the bowel must consequently produce three distinct perversions, viz.: First, their absence permits intestinal putrefaction to proceed without check. Second, normal peristalsis is interfered with and stagnation of bowel contents occurs. Third, assimilation of the fats is interfered with so that the latter stagnate in the upper portion of the bowel, undergo abnormal degradation, and this leads to the formation of highly irritating and poisonous acid products, and incidentally interferes with the digestion of the proteids.

In the blood the bile acids are known to exercise the following nine effects. (Collected from Croftan): 1. They have a powerful cytolytic action. Injected even in small doses they produce a widespread disintegration of the red blood corpuscles, with a liberation of their hæmoglobin; brought in contact with other cells of the body they cause their disintegration. 2. They have a distinct cholagogue action; they are, in fact, one of the very few substances known to possess this power, and actually cause an increased flow of bile. 3. They aid coagulation in small doses (1:500). 4. They stop coagulation in large doses (1:250 and over). 5. They slow the heart beat by a direct action on the heart muscle and the cardiac ganglia. 6. They act as vasodilators in very small doses. 7. They act as vasoconstrictors in large doses. 8. They reduce motor and sensory irritability. 9. They act on the higher cerebral centres, causing coma, stupor, and death from gentle enslumbering.

Many of these effects are produced only, however, when the bile acids are injected directly into the circulation in quantities larger than normally found in the blood; consequently we can only claim that they normally exercise the effects enumerated under 1, 2, 3, and 6. In other words, the bile acids aside from their intraintestinal functions are concerned, while performing their intermediary circulation, with the normal destruction of cells, chiefly red corpuscles and with influencing the flow of the bile when they reach the liver in the blood of the hepatic artery; they also aid coagulation and play a part in the mechanism of vasoconstriction and vasodilation. In pathological states when larger quantities of the bile acids enter the blood their other powers may also become manifest.

Indications for the Use of Bile Acids.—Inasmuch, then, as the bile acids are not an excrement, but a secretion intended to perform a variety of nec-

essary functions in the bowel and the blood, the indications for their use as a remedy are simple. Wherever bile acids are lacking or deficient they should be supplied, or wherever abnormal phenomenon appear that we know to be amenable to treatment with substances possessing the physiological action of the bile acids, there should they be used. In the former instance we employ a true substitution therapy by supplying a deficient physiological product, as we use e. g. thyroid extract in myxœdema; in the second case we are merely using an animal preparation for its known medicinal effect as we use e. g. suprarenal extract to raise blood pressure or to arrest hæmorrhage.

Bile acids may be employed with propriety chiefly in three conditions that are causally related to one another, namely, in intestinal putrefaction, in hepatic insufficiency, and in gallstone disease and also, of course, in the various syndromes that we know to be consecutive to these states.

1. *Bile acids in intestinal putrefaction.* Their mode of action in intestinal putrefaction is simple. In the first place, as we have seen above, they check the development of putrefactive intestinal parasites by direct contact, i. e., chemically; and, in the second place, they act physiologically as powerful cholagogues by producing a profuse flow of bile containing bile acids into the bowel. Moreover, by hastening peristalsis they accelerate the passage onward of putrid masses that are stagnating in the bowel. Finally, by aiding in the emulsification of fats they promote the rapid absorption of the latter and thereby prevent the formation of poisonous acid by-products derived from the abnormal dissimilation of fats. I consider the bile acids to be one of our most efficient intestinal antiseptics, and as self intoxication from the bowel is one of the most prolific causes of many chronic cardiovascular, renal,¹ nervous, and metabolic disorders, the bile acids in this sense have a very wide field of usefulness.

2. *Bile acids in hepatic insufficiency.* The remedial action of bile acids in hepatic insufficiency becomes clear when we consider the consequences of the latter condition, viz., changes both physical and chemical, in the character of the bile. Physical, in so far as it becomes thick and viscid and can only sluggishly ooze through the bile channels instead of pouring through them in an active stream. Chemical, in so far as the proportion of the different ingredients of the bile changes so that less of the specific liver products (chief among them the bile acids) are secreted.

In liver insufficiency an important vicious circle is always formed; for the changes in the bile that result from inadequacy of the hepatic cells to properly perform their function cause stagnation in the bile channels; as a result back pressure is exercised through the biliary capillaries upon the hepatic cells and their afferent blood-vessels, so that the nutrition and hence the function of the liver cells is thereby further impaired; moreover, the absence of the normal amount of

bile acids from the intestine by favoring intestinal putrefaction promotes further intoxication of the liver cells; finally, deficiency of bile acids in the bowel means also deficiency in the circulating blood so that the liver is deprived of the cholagogue stimulus of the circulating bile acids.

By giving bile acids by mouth this vicious circle may be broken in different places; hence the great value of the bile acids in hepatic insufficiency.

3. *The use of bile acids in gallstone disease.* Neither the bile acids nor any other remedy that might be administered by mouth can have the power of dissolving concretions in the gall duct after they have once formed. In cases, however, that have a tendency to the deposit of gallstones I believe that bile acids may occasionally aid in preventing the further formation of concretions. We know that in the great majority of cases the primary factor that determines the formation of the gallstones is the invasion of the gallbladder by microorganisms often combined with some mechanical injury to the walls of the viscus and, we must assume, with abnormal viscosity of the bile. The bile acids, therefore, are a useful remedy; for they can render the region around the orifice of the common duct aseptic and at the same time can produce a copious outpouring of thin bile containing a surplus of bile acids; thus they can to some extent prevent the entrance of intestinal germs into the gallbladder and the hepatic duct, while at the same time promoting drainage of the bile channels with a fluid that is in itself antiseptic.

Administration and Dose.—One might argue that liver or bile would be just as useful as the bile acids or their salts, inasmuch as both the liver and the bile contain bile acids. Formerly, as a matter of fact, ox gall was a favorite remedy for a variety of conditions that we now understand to have been due to hepatic insufficiency and intestinal putrefaction. It was also given frequently as a substitution remedy in cases of complete occlusion of the common duct.

The use of the bile acids or of the bile acid salts, however, is much more accurate and scientific than the administration of liver or of ox gall; for, in the first place the bile acids are really the only ingredient of ox gall that exercises any pharmaceutical effect. Evidently all the other elements that compose bile are either altogether inert or directly harmful, for one must never forget that the bile is primarily an excrement and consequently contains a number of poisonous bodies which are intended to be eliminated from the body as rapidly as possible. To reintroduce them, therefore, by mouth in cases in which the bowel functions are already deranged and in which the intoxicating powers of the liver are below par, is manifestly bad practice. Besides, ox gall and especially liver extracts contain very varying amounts of bile acids. Some preparations of bile that I have examined contained practically none at all. The bile acids further are frequently excreted in combination with albuminoid bodies, so that it becomes altogether problematical whether they are absorbed at all, when bile or liver are given, and are not wasted in the stools.

¹ See also Croftan, The Circumstances and Treatment of Bright's Disease. *The Journal of the American Medical Association*, June 24, 1905.

middle turbinal. Presumably the same condition extended into the accessory sinuses, and probably blocked the outlet from the frontal cavities and ethmoid cells. Tapping with the finger end over the superciliary ridge, on each side, increased the painful sensations. There was no external swelling or redness; and apparently no active catarrhal condition. The general condition was first class in all the cases with no evidence of any cachexia or toxæmia.

As regards the propriety of the title of brow ague, it is evident that it is inappropriate if it is taken to imply any necessary connection with malarial manifestations. Dunglison gives the etymology of ague as derived from *agis*, a Gothic word meaning trembling, but adds an interrogation mark. Other lexicographers recognize in it the French word *aigu*; on account of the short, sudden, and sharp character of the disease to which it is generally applied. It also has a secondary meaning of intermittence or periodicity of the recurrence of the symptoms, in which sense it may be applied to the form of frontal headaches now under discussion. Perhaps a better title would be hemicrania frontalis periodica, were it not that it might be confounded with migraine, which, as Fagge pointed out, is a distinct affection.

Brow ague is not a neuralgia of the classical type. There are no spots of tenderness along the nerve trunks, for one thing, and its prompt response to treatment is another, which mark the distinction between them. That there is disturbance of vasomotor nerves, intimately associated with this condition, seems probable. There may also be a certain individual susceptibility involved, since the same degree of congestive swelling may be present in other patients, without causing the pain that is such a prominent feature in these cases.

Before leaving this subject of ætiology, I wish to say that the cause of the congestion or inflammation of the nasal mucosa may not be ascertainable in many cases. In some it may be attributed to malarial poisoning; in others to influenza. Recently I read in the *Indian Medical Gazette* (Calcutta, November, 1905) a report of a peculiar local epidemic of influenza, which was especially characterized by headache in the frontal region. Personally, I have experienced more than once an inflammation of the maxillary sinuses after influenza, and see no reason why the frontal sinuses may not be similarly involved from the same cause.

The treatment was simple and afforded prompt relief. Its object was to reduce the congestion and secure drainage from the frontal sinuses, at the same time relieving the pain by usual methods. The local treatment consisted in the application of cocaine and adrenalin solutions upon tampons, followed by injection of moist hot air and alkaline fluids, directed into the superior meatus. To aid in reducing congestion, a saline cathartic was ordered, followed by a capsule containing quinine hydrobromide, gr. ii; camphor monobromate, gr. i; and acetanilide, gr. i, or compound acetanilide powder, gr. ii; to be given every two hours for four doses, then every four hours. In cases that were complicated with neuralgia, a small hypodermic injection of morphine hydrochloride (gr. $\frac{1}{8}$) was given, when the pain was most severe. The symptoms usually disappeared by the second visit, or during the first twenty-four hours. The

local treatment with cleansing sprays was directed to be continued for a week or more, and a tonic given, such as tincture of the chloride of iron (1 part), elixir of gentian (6 parts), for cases that required a chalybeate, or phosphoric acid and elixir of calisaya with tincture of nux vomica. In plethoric and rheumatic cases cathartics and alkalies were ordered.

The practical feature of the present communication consists really in calling attention to the importance of careful local examination in these cases of frontal periodical headache, instead of simply dismissing them with prescriptions without such examination. It has happened in frontal headache from another cause that after a course of unsuccessful treatment the patient has spontaneously expelled some foreign body, or living larvæ, which caused the local pain, and which would have been recognized at the beginning, if a proper examination had been made. So in these cases of brow ague the discovery of the local tumefaction directly leads to its removal by methods in common use and the prompt relief of the symptoms.

218 SOUTH SIXTEENTH STREET.

THE CHEMISTRY OF TOXÆMIAS IN PREGNANCY.*

By C. G. L. WOLF, M. D.,

NEW YORK,

CORNELL UNIVERSITY MEDICAL COLLEGE.

The theories which have been advanced to explain the excessive vomiting in pregnancy, and the convulsive seizures which may attend the condition, may for the sake of convenience be divided into three classes: (1) Neurotic; (2) reflex; and (3) toxic.

That toxic substances are formed, and that these act in producing the disorder, has been the view of investigators for very many years. The points of divergence have been in the opinions as to the real nature of the toxic agent.

A large number of experiments have been performed in attempts to show that the liver, the placenta, the urine, or the blood of patients succumbing to pernicious vomiting is toxic to lower animals, without, it must be confessed, any very definite conclusions being arrived at. Work is still being pursued along these lines, as the recent experiments of Liepmann on the toxicity of the placental extract would indicate. The difficulty in accepting experiments of this kind lies in the toxicity which normal extract or tissues of almost any organ have when introduced into animals. Furthermore, the individual resistance of animals to these extracts is so diverse as to hopelessly confuse the results obtained.

The fact that definite toxic agents are at work, and are the cause of the disorder, admits of no doubt, but it has yet to be shown that definite substances produced by the placenta, the fœtus, or the maternal organs are the sole, or even the direct, agent in the production of the vomiting, or of the convulsive attacks.

It is, however, to one phase of the toxic theories of eclampsia that I wish to direct your attention, as this theory is intimately connected at the present time with the diagnosis and treatment of the disease. This is the theory of acidosis, or acid intoxication.

* Read before the Medical Society of the County of New York.

TABLE II.

Simple inanition, normal subject, fatty habit.				
Total nitrogen.	β oxybutyric acid.	Aceton.	Acetoacetic acid.	Ammonia. Per cent.
5.8	0.2	0.57	+	29.5
6.4	8.4	0.41	+	44.8
6.2	9.8	0.16	+	20.6
6.2	5.3	0.56	+	29.7
6.3	11.6	0.52	+	29.8
4.4	7.0	0.34	+	
4.2	9.1	0.24	+	35.3
8.4	13.6	0.11	+	15.3

All investigators who have examined the metabolism in starving animals have pointed out the increase in the percentage of ammonia under these conditions. As Brugsch has shown recently in his experiments on Succi, the amount of ammonia in a normal individual may reach the enormous proportion of thirty-five per cent. of the total nitrogen by the simple abstinence from food. This is the identical condition under which many studies of vomiting in pregnancy and narcosis have been conducted.

Patients who either from anorexia or from vomiting are not receiving food, are in a state of starvation. Even with rectal enemata, the amount of nutriment absorbed will be quite insufficient to cover the heat loss. It is not a matter, therefore, for any great surprise that observers have, in cases of hyperemesis, found large quantities of reformed ammonia in the urine.

The question now fairly arises, why if Williams found large percentages of ammonia in the cases which he considered toxic, in the cases which he called neurotic or nontoxic, small ammonia coefficients were found, within the popularly accepted normal limits. While I have no data to go upon in the particular cases in question, I have applied another explanation which has proved perfectly satisfactory in certain cases examined by me, which is as follows:

It is currently accepted to-day that the source of the acids produced in starvation are the body fats, not the proteins or the carbohydrates. In a patient with an excess of body fats the tendency is towards an elimination of acids with a correspondingly high increase in the ammonia excretion. On the other hand, subjects poor in body fat live on their proteins, do not produce these acids, and consequently do not produce excessive amounts of ammonia. This is shown very decisively in a case studied by Brugsch, in which a woman, in consequence of an œsophageal stenosis, had received no nourishment for forty days. The patient at the autopsy was found to be absolutely devoid of fat, and, as will be seen, the analysis of the urine showed the amount of ammonia excreted to be within the so called normal limits. (III.)

TABLE III.

Simple inanition, normal subject, no body fat.				
Total nitrogen.	Aceton.	Acetoacetic acid.	β oxybutyric acid.	Ammonia. Per cent.
5.4	0	0	0	2.2
8.1	0	0	0	3.7

It would appear to me that the differentiation given by Williams as the results of his urine analyses might equally well be made by a separation of his patients into those of fatty habit, and those more or less devoid of body fats. In other words, the cases which were considered toxic were in women with plenty of reserve fats, while those which were neurotic were in patients with small amounts of fats, and who lived on their proteins during the period of inanition. At all events, I have applied this explanation to certain sets of cases with results which

indicate the correctness of the theory. The explanation which I give has, moreover, the foundation of actual analogies in the normal subject observed under strict experimental conditions.

What I have had to say regarding the significance or nonsignificance of ammonia in the pernicious vomiting of pregnancy applies with equal force to the use of any of the acetone compounds, acetone, acetoacetic acid, and β oxybutyric acid as a means of diagnosis. As a matter of fact, it requires very little decrease in the amount of food to produce these compounds in the urine, especially in subjects who are well nourished.

The following table taken from Waldvogel will suffice to substantiate this statement:

TABLE I.

Simple inanition, during three days fast only, stout subject.				
Day	Aceton.	Acetoacetic acid.	Sodium β oxybutyrate.	Ammonia. Grammes.
1	0	0	0.0	0.8
2	++	+	0.18	0.8
3	+++	++	2.98	1.4

We have here the examination of the urine of a perfectly normal subject who is furthermore described in the text as a "wüster Kerl." After one day's fasting a most distinct test for acetone is given, a weak test for acetoacetic acid, and 0.18 gramme of β oxybutyric acid were found. On the second day, large quantities of acetone and acetoacetic acid were detected, and the very conspicuous amount of 2.98 grammes of sodium β oxybutyrate was estimated.

Should any further proof be required of the insignificant connection between the presence in the urine of the acetone compounds and the essential features of vomiting in pregnancy, I might refer to the experiments of Scholten. This observer fed 100 grammes of cane sugar to women who were vomiting, and who were excreting considerable amounts of acetone compounds in the urine. Out of ten experiments which he made, seven of the women retained the sugar solution, which was absorbed. The acetone compounds disappeared from the urine. In the three in which the solution was rejected, the acetone compounds persisted. The disappearance of the acetone from the urine had not the slightest effect on or connection with the progress of the condition.

My own view of the matter is, that it is futile to attempt to explain the ætiology of pernicious vomiting through the medium of acid intoxication. The attempt is made through an incomplete realization of the behavior of the normal organism during periods of inanition.

Consequently, any attempt to recognize, or to diagnose degrees of the disorder through an examination of the urine for ammonia, for acetone, acetoacetic acid, or β oxybutyric acid is lacking the support of any thoroughly sound physiological experimental groundwork.

From Old New York.—The Sun of New York of March 4th says that a bit of delicately wrought iron railing of a pattern seldom seen these days adorns the portico at the entrance to the main building of Bellevue Hospital. The history of the railing is told in a peculiarly phrased inscription on the stone immediately beneath it, though few visitors pause to read it because time and many paint brushes have all but obliterated the words. It runs: This railing formed part of the balcony of Federal Hall, over which General Washington delivered his first inaugural address, April 30, 1789.

THE ASSOCIATION OF ADENOIDS AND IMPAIRED HEARING IN YOUNG CHILDREN.

BY THOMAS D. STRAUB, M. D.,
NEW YORK.

ASSISTANT LECTURER IN LARYNGY OF THE EAR, UNIVERSITY OF MICHIGAN MEDICAL COLLEGE, ANN ARBOR;
CLINICAL LECTURER, ROSENTHAL EYE AND EAR HOSPITAL.

One of the most interesting problems in medicine today is the possible prevention of aural disease in young life by removal of the cause in early childhood.

The medical lay for some years believed that in a very large percentage of cases chronic catarrhal inflammation of the middle ear and the consequent loss of hearing in childhood and the loss of hearing in adult life—and further that chronic deafness in the immature is curable. Golden, then, is usually assumed. It is in support of this view that we believe to present certain facts based upon a study of two classes of child patients, viz.:

(1) Children who complain of, or are observed to suffer from, impaired hearing; and

(2) Children suffering from some degree of nasopharyngeal obstruction.

1. Excluding deafmutism and labyrinthine deafness following cerebrospinal meningitis, the children who complain of impaired hearing usually present such similarity of symptoms and physical signs that a generalization can well apply with but slight modifications to all. In most cases the loss of hearing is fairly marked before they or their parents have noted their deficiency. Not infrequently the first intimation of their auditory defect is the difficulty they experience in keeping abreast with class mates at school. These children, almost without exception, are mouth breathers during some portion of the twenty-four hours. They may be well nourished and of average development, and when quiet may appear to breathe quite normally. With the slightest physical activity, however, the nasopharyngeal route becomes inadequate to the accelerated breathing and the respiratory defect becomes more or less noticeable. Almost invariably there is a history of difficult respiration, mouth breathing, or snoring at night.

Examination of the nose usually reveals marked congestion and in some cases considerable congestion of the nasal mucous membranes. This bilateral retraction of the drum membranes in a child of ten years or less is, in the writer's experience, pathognomonic of one condition, viz.: nasopharyngeal obstruction. The congestion, when present, is characteristic and differs from that usually seen in adult patients with inflammatory conditions, in that it is not confined to the posterior wall and region of the lower turbinate. There is a distinct line of demarcation between the red and inflamed portion of the drum membrane, and the normal part of the membrane from it usually extends to the annulus.

In a majority of cases, however, congestion is not present, the drum membranes being greatly retracted.

There are some children suffering from adenoids whose hearing is apparently normal, and whose characteristic nasal obstruction is sufficient to prevent any doubt. There

are others who present no such characteristic picture. The latter two syndromes are probably explained by differences in the distribution of the growth. If the hypertrophy is not great in the middle portion of the pharynx, and not so placed as to form an obstructing mass immediately behind the posterior nares, the breathing during the day may be but little interfered with. On the other hand, comparatively small masses of lymphoid tissue placed laterally in the fossæ of Rosenmüller may give rise to tympanic changes which, unless corrected, must inevitably lead to functional disturbances later in life. Such patients may present no characteristic signs of pharyngeal hypertrophy other than the displacement of the drum membranes above noted. The loss of hearing is gradual, and years may elapse before they are brought to the physician for treatment. These are the recruits who go later in life to swell the army of the chronically deaf.

I wish to emphasize the fact that in young children the physical appearances of the drum membranes afford one of the most reliable guides as to the presence or absence of adenoids, and that often in this way may be detected small masses of lymphoid tissue pressing upon the mouths of the tubes which might otherwise be overlooked.

The hearing,—in those cases in which reliable tests can be made,—shows impairment for the watch tick and whispered voice, and in the more advanced cases some interference with the hearing of the lower tones of the musical scale.

2. For the privilege of examining a series of patients whose chief subjective symptoms were not referred to the ear, the writer is indebted to Dr. Jonathan Wright. These children were referred to him as they were admitted to Dr. Wright's clinic at the Manhattan Eye and Ear Hospital, a diagnosis of adenoids having previously been made by Dr. A. F. Koontz. Fifty children in all were examined. Their ages ranged from three to twelve years. The faucial tonsils were noticeably enlarged in all but eight cases. On being questioned, fourteen admitted impairment of hearing, the others denying any auditory defect. Forty-five showed evidences of aural disease which may be tabulated briefly as follows:

Retraction of one drum membrane.....	2
Retraction of both drum membranes.....	22
Retraction and marked congestion of both drum membranes.....	7
Retraction of one drum membrane; perforation of the other.....	7
Perforation of both drum membranes.....	3
Retraction of one drum membrane; perforation of the other.....	4
Drum membranes normal.....	5
Total number of patients.....	50

The hearing was apparently perfect in six cases; indeterminable in eleven cases, and distinctly impaired in thirty-three cases.

Many of these cases presented a remarkable degree of retraction, i. e., far greater than that which usually accompanies tubal obstruction in adult patients. The hearing showed diminished audition for the watch and acumeter, and in some cases interference with the perception of the lower musical tones. The hearing distance for the watch varied from one to twenty-five inches, forty-five inches being about the normal distance. In some cases

there was loss of hearing for the lower musical tones varying from one or two notes to an entire octave. Alterations in the lower tone limit are usually in children accompanied by greater disability for interpreting spoken words than is experienced by adults with the same loss of tone perception. This is probably explained by the inability of the child to supply mentally from the context what he has failed actually to hear. Bone conduction in children is usually indeterminable, and proved so in these cases. The striking fact brought out by these tests was the slight functional impairment as compared with that which would be expected with the same degree of retraction in adult patients. May we argue from this that in young children the hearing is impaired before organic changes within the tympanum have taken place? Is this, therefore, the logical time for the complete and permanent cure of chronic catarrhal deafness by thorough surgical removal of the underlying cause? The question is at least worthy of consideration.

Neglect of this Class of Patients.—That the frequency of slight degrees of deafness in young children is not more generally appreciated is to be accounted for in much the same way that we explain the ignorance of many adults as to their diminished hearing power until the deafness is quite marked. With children, as with adults, some degree of impairment may exist before any marked disability for the hearing of speech is demonstrated. In the case of the child this degree of impairment may persist throughout early childhood; and between the twelfth and fifteenth years, when the upper respiratory passages undergo enlargement and the lymphoid structures (adenoids) tend to be absorbed, it is quite possible that the hearing may be distinctly improved. Such functional gain does not, however, necessarily mean arrest of pathological changes within the tympanum. After a variable period, usually of years, the patient again begins to experience difficulty in hearing certain sounds, and now consults an otologist on account of a tympanic lesion of distinctly chronic type.

Treatment of Catarrhal Deafness in Children.—As to the treatment, all that need be said here may be condensed into a few words. Whenever it can be determined that aural disease is caused or perpetuated by a nasopharyngeal growth, its removal is the first indication of treatment. In the case of adenoids, it is of great importance, if the welfare of the ears be held in mind, that the region of the Eustachian tubes be thoroughly cleared. Failure to do this is a cause of frequent failure to obtain the best results, and probably explains many cases of supposed recurrence.

In three weeks to one month after the operation, the ears should be examined and the hearing retested. If the drum membranes are still retracted or congested, inflation by the Politzer method, or by catheter if the age and temperament of the patient will permit, often aids in establishing the results for which the operation was undertaken. Patent Eustachian tubes, improved hearing, and restoration of the drum membranes to a more nearly normal condition should be regarded as among the tests of a successful result.

58 WEST FIFTY-SIXTH STREET.

THE MEDICAL SOCIETY OF KINGDOM COME.

NOTICE OF THE CENTENNIAL ADDRESS.

BY WILLIAM COWPE GARDNER, M. D.,

NEW YORK.

President's Address: I, Hippocrates, the oldest member of our guild, do give you greeting, but am filled with fear and trembling lest ye should judge me wrongly, and take away my good repute. Of a surety my head swimmeth, and a dizziness hath taken hold upon me, yet it cometh neither from strong drink, nor from a fevered brain. Confusion hath come upon me by reason of the wonders I beheld but lately on the earth, as I did move among the mortal members of our guild. Ye, also, will be filled with astonishment as ye listen to my words, unless it seemeth unto you, that my tongue doth speak deceitfully. Our little knowledge did give no faintest promise of the growth that was to come, but verily, man knoweth naught about the greatness of the tree by taking strict measure of the seed.

Greatly would ye marvel, brethren, could ye but get a glimpse of that great world, whose myriad living forms are so minute as to be beyond the reach of ordinary sight. To look into this world one putteth his eye to a tube of metal, which hath within it certain pieces of glass, and this doth so magnify everything, that were a grain of sand split into a thousand pieces, each separate fragment would appear as though it were the parent grain. Through this device I beheld the several forms of solid bodies which do float in the blood and with such clearness that I could count them as I would count coins upon my open palm. I did also see those infinitely smaller dots and rods, called germs, which those most skillful in our art do hold to be the cause of much disease and inflammation.

Besides the help of this magnifying tube, the eye also gaineth much from new and strange forms of light. One such seemeth to be a white hot loop of thread, surrounded by a shield of glass like unto a fig in shape, and inasmuch as the thread doth only glow and burneth not, it giveth forth no flame and but little heat and yet, withal, a strong and steady light. Being of such quality and fashion, it may be thrust into such dark cavities of the body as the vagina, the rectum, and the bladder, and made to shine upon the walls thereof. Yea, it is even lowered into the stomach, so that the belly gloweth, and the greater or lesser brightness of the glow teacheth much concerning what doth lie between the light and the eye of him that watcheth.

Another curious light proceedeth from a rounded vessel of glass, which seemeth to be filled with a pale, greenish flickering, such as one seeth at times, by night, upon the water, when a boat or other body doth ripple the surface thereof. In spite of seeming faintness, this light hath power to pass right through the body, and picture the form and outline of each bony part, and all that telleth of the presence of the flesh is a faint shadow, that lieth round about.

And I did also observe that strange remedies were administered unto the sick, and in a strange manner. We were wont to purify the body by the letting of blood, whereas to-day the blood is not only kept within the body, but certain diseased blood is

And the woman goeth into the inner room and returneth again many times. Glasses of many kinds are placed before her eyes, and the muscles are cut on either side, but all without avail.

Again I saw her in another antechamber, wherein sat many other women. And I looked upon these also through the eyes of him who sitteth in the inner room, and behold I saw naught but wombs and the appurtenances thereof. And of him also I asked "Where are the women?" And he said "Art thou of so little depth as to judge the fruit by the shell thereof? What thou seest before thee is woman, albeit many fools do look upon the outer shell as such."

And through his ears I heard a sound like unto the dropping of ripe almonds upon the earth. And again I asked, "What causeth the sound I hear?" And he answereth "At this hour of the day it is our wont to spay the women of the land, and as the ovary droppeth into the pus basin, it maketh the sound of which thou speakest." And I said "How, then, will the earth be peopled in the time to come?" And he respected neither mine age nor my wisdom, but laughed me to scorn, called me Rip Van Winkle, asked me whence I came, and at last said, with much truth but great irreverence, that I was not up to date. And I held my peace for fear of further gibings.

When the woman came, in her turn, he putteth a ring within her and proppeth up the womb, and against the mouth thereof he placeth cotton, which holdeth a dark and stinking medicine. This he doth for many days and then he openeth the womb and scrapeth the inmost recesses thereof. At last the woman laveth herself down upon the altar of her sex, and permitteth the surgeon to take away her womb, and tubes, and ovaries. And he, being mindful of the sorrow they might cause in the years to come, doth take away the appendix and the gall-bladder also, and into all the vacant places doth glide the soft, accommodating gut. But he restraineth his hand and leaveth to the woman a kidney, that did swing to and fro in the belly, but he shorteneth the cord thereof, and maketh the kidney fast in the place where it properly belongeth, according to his judgment. Of a truth this was some little space apart from the place appointed for it by the Creator of all, but by much work on many bellies, this man hath attained unto great wisdom.

But the woman grew worse and went to seek help from many. One poureth water into her stomach, and taketh it out again, cleansing her as one would cleanse an empty vessel. Another maketh her to lie in bed and neither think nor speak for many days. Another placeth her body in water, which containeth many bubbles, that do prickle against the skin. Another shooteth into her body sparks, that crackle and sting, and upon her head he sendeth a breeze, that maketh the hair to stand on end. Another wideneth the vent and into such hemorrhoids as he seeth, he squirteth a burning fluid, and for a season the woman hath more comfort when she standeth than when she sitteth down. Another looketh into her eye and speaketh sternly unto her, and she falleth into a sleep, yet one that differeth much from the nightly sleep of rest. Her body sleepeth not, but doeth the bidding of him who worketh this magic upon her, yet when he suggest-

body but the stalk." And the woman goeth into the inner room and returneth again many times. Glasses of many kinds are placed before her eyes, and the muscles are cut on either side, but all without avail.

Again I saw her in another antechamber, wherein sat many other women. And I looked upon these also through the eyes of him who sitteth in the inner room, and behold I saw naught but wombs and the appurtenances thereof. And of him also I asked "Where are the women?" And he said "Art thou of so little depth as to judge the fruit by the shell thereof? What thou seest before thee is woman, albeit many fools do look upon the outer shell as such."

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eth unto her many simple, silly lies, so soundly sleepeth her judgment, that she regardeth them as very truth. Another placeth against her body a device made of metal, which hummeth continuously, and which so shaketh her that it maketh her frame to quiver, as jelly quivereth in an earthquake. She goeth even to a new sect and seeketh out one who is a healer therein. And he saith unto her that her suffering and her body, and all bodies, and all matter of all kinds are nothing but an imagination. Yet he maketh an agreement, that unto what she imagineth to be her body he will daily give what he imagineth to be a treatment, even though she be afar off, and after many days she will be healed of the sickness which doth not exist. And she, not being one that readily perceiveth humor, payeth him for his wisdom. He further specifieth, that when he hath taken away from her the disease which she hath not, she shall pay unto him a certain sum of gold and silver, a form of matter, and a matter of form, that findeth favor both with believers and with unbelievers. Then, verily, it dawneth upon me, that there be some matters in which the man seeth to it that the imagination playeth no part, and thereby he worketh to much advantage.

But the woman profiteth not from any of these things.

And once more I beheld her in an antechamber, smaller than any wherein I had seen her heretofore, and only one beside herself sat waiting therein. And in the inner room I saw the man whom she sought, and he looked like unto one that understandeth himself, and not as one that puffeth himself up with the vain imagination that he requireth a bigger head piece than any of his fellows. And he asked the woman many questions concerning herself, her brethren, her parents, and her parents' parents. With his ear he striveth to learn something about the parts that do lie within the chest, and with his hand he searcheth out the few parts of worth still left within the belly. At length he saith unto her "Fear not, for of a surety thou canst be healed." And she saith unto him "What aileth me?" He answereth "Verily thou hast no ailment of any moment. Thou sufferest only because of a slow and sluggish action of the gut, or as it is vulgarly said, thou art constipated." And she took the paper on which he had written, and paid him, and went her way. And as she passed out, she said in her heart, "Lo! this man is a fool." This she said, not from any thought that he lacked wisdom or spake falsely, but she held him in low esteem because he did find but an ordinary ailment, and did charge but an ordinary fee. Yet, because she had given up most of her substance, and all of the organs she had to spare, she did the bidding of the man and was healed. But verily I say unto you, that the woman hath more regard for him that did much and charged much, yet benefited her nothing, than she hath for him that did heal and restore her at little cost.

121 WEST SEVENTY-FIRST STREET.

Present Price of Radium.—Henri Farjas, of Paris, in his latest list of radium preparations, quotes the following prices: Pure radium bromide, one milligramme, \$80; one centigramme, \$800; one decigramme, \$8,000; one gramme, \$80,000. To this must be added the import duty of twenty-five per cent. One grain would therefore be worth in this country more than \$5,000.

A CASE OF MELÆNA NEONATORUM. By BENJAMIN EDEL HELPRIN, A. M., M. D.,

BROOKLYN.

Mrs. B., multipara, was taken with labor pains on Tuesday, February 4th, but progressed so slowly, that I was not called until 2.30 the following morning.

Vaginal examination, at that time, gave me the following condition of affairs: Four finger dilatation, membranes very tense with expulsive pains; left occipitoanterior position; pelvis slightly contracted. The pains at that time averaged fifteen minutes, were weak in nature. The patient was very nervous, and, though of robust stature, anæmic and easily exhausted. The membranes ruptured shortly after, and the pains for the next few hours were quite erratic, varying in frequency from fifteen to five minutes, but not at all satisfactory. At 8 a. m., the head was little more than half an index finger from the separated labia, the pains coming every five minutes, but still no further progress. Having in mind the possibility of some umbilical interference, I endeavored to reach the neck and the shoulders, but the narrowed pelvis prevented this. At 10 a. m. the patient was thoroughly exhausted and on the verge of hysteria. Application of low forceps seemed now justifiable, from both this standpoint and from the fact that auscultation gave a very rapid fœtal heart.

More than twenty-four hours after delivery I was hastily summoned to the infant and found a profuse mucus vomit, almost gelatinous in consistency, and streaked with bright blood. The family history proved absolutely negative, both as to hereditary taints of any nature, principally tuberculosis and syphilis, and as to hæmophilic probability. Cerebral hæmorrhage from the infant, perhaps from undue pressure, also had to be excluded. The pulse, respiration, temperature, and general appearance proved most encouraging throughout. This bloody vomit, still bright and gelatinous, continued the entire day, at intervals varying from one to two or three hours. The first nursing was very laborious and without result, as the mother was in a nervous state throughout, and there was a scarcity of milk. The infant was put under the adrenalin chloride treatment, one drop to one drachm of aqua calcis every hour. Absolute quiet and reclining on the right side were also enjoined. The following day no meconium having been passed, I prescribed one tenth grain calomel for ten doses, and during that time substituted sterile water for the lime water. Dr. M. A. Cohn, who was called in consultation, agreed with this *modus operandi*.

At night there was but one bowel movement, black, with all evidences of blood. During this day the infant vomited but twice, and his vomit was darker and less gelatinous, and less profuse. Calomel was again indicated the day following, and the result was dark stools with tinges of blood. No stimulation was required throughout the entire treatment. A loss of one pound was noted, weight having decreased from eight pounds at birth to seven pounds forty-eight hours thereafter. On the third day the vomiting ceased, but the bowel movements remained unchanged. The infant manifested a ravenous appetite, and the mother was instructed not to follow any set time for feeding. On the fifth day we had the satisfaction of noting the first healthy stool, and felt that the danger was passed. The adrenalin chloride was shortly thereafter discontinued.

In this connection, and a very interesting factor in Mrs. B.'s history, is the following: A little more than a year ago, Dr. Leo Greenebaum called me to assist him. Application of forceps was indicated, owing to the contracted pelvis;

Extirpation of an Hypertrophied Thymus for the Relief of Dyspnoea (Thymic Asthma).—Cases of dyspnoea resulting from the compression of the trachea by the thymus sometimes take on the

appearance of veritable suffocation, a condition which has been described as thymic asthma. Up to the present time this gland has never been completely extirpated, but M. O. Ehrhardt (*Archiv für klinische Chirurgie*) has recently performed it with complete success. The case was a young girl of fourteen, who was suffering from strong compression of the trachea by the hypertrophied gland. The operation was followed by free respiration, and what is worthy of special notice the child did not present any sign of disorder from suppression of the internal secretion of the thymus gland.—*Le Bulletin médical*, February 21, 1906.

Action of Spirits of Camphor Upon the Larynx.—V. Pick, of Meran, reports a case (*Wiener medizinische Presse*, No. 51, 1905) of a man, fifty-two years of age, suffering with myocarditis and valvular stenosis, who received from his physician some spirits of camphor, with directions to dilute with brandy and make an application to the throat. Immediately after its use there was paroxysmal cough and burning in the throat. Examination showed a caustic action upon the mucus membrane. The entrance to the larynx was hyperæmic and much swollen. Swallowing was impossible. Under local applications of cocaine, etc., the patient was able to eat at the end of four days. On the fifth day a large fibrinous cast (12 cm. long and 1 cm. broad) was coughed up; it corresponded with the mucosa of the trachea down to its bifurcation, where it was divided into two branches. The caustic action was attributed not to the camphor, but to the alcohol (50 per cent.).

Endermic Administration of Mercury in Infantile Syphilis.—J. Comby (*Journal de médecine de Paris*, March 4, 1906) recommends the introduction of mercurials by friction in young infants, regarding it as the most efficacious method in early life. For these inunctions, he advises the employment of an ointment, which contains equal parts of mercury and excipient (petrolatum, adeps lanæ, or lard). Every day two grammes of this preparation, which is also called Neapolitan ointment, are administered. He uses it by rubbing on the skin, whatever may be the age of the infant, a quantity equivalent to 1 gramme or gr. xv of mercury. In fact, we have no reason to fear in early infancy any danger from acute mercurialism. Mercurial stomatitis, for instance, does not occur at this age. As regard the local effects, these are obviated by changing the place of friction every day. The massage is not applied directly over any affected organ, but over different parts of the trunk (axillary regions, hyponchondriac region, the buttocks, iliac fossæ, etc.). Each friction should be carried on for five minutes, and should be made by the aid of a small piece of flannel, which is then to be left upon the region frictioned. In this way we are sure to make the child absorb a sufficient quantity of the mercury. The good results obtained from it attest the excellence of this rather old method.

The Removal of Tattoo Marks from the Skin.—Variot (*Société de pédiatrie*, December, 1905) recommends a simple method of removing red

or blue designs made upon the skin by the process of tattooing. When they exist upon the hands or face they cause considerable annoyance. In order to remove them from adults a superficial eschar is made as follows: The skin is well moistened by a strong solution of tannic acid applied by means of a piece of absorbent cotton. This is to promote antiseptis and check bleeding. A bundle of three or four needles is then used to obliquely pick the surface of the spot, introducing the needle so as to tear the epidermis. The punctures should be made close together. The surface is rubbed with a crayon of silver nitrate with considerable force. The eschar is then painted with an ethereal solution of tannin, and is kept dry for a couple of weeks, when the derma will separate, without suppuration. The tattoo marks fall off with the eschar, leaving a red surface, which in the course of time becomes gradually less noticeable, as it gets pale.

Treatment of Furuncle in the Auditory Canal.—As regards the ætiology of inflammation in the auditory canal, Hang (*Journal de médecine et de chirurgie pratique*) calls attention from the prophylactic standpoint to the fact that furunculosis, or abscess, is most frequently met with in those persons who are in the habit of introducing various instruments into the auditory canal for the purpose of cleaning it. Such instruments are often in a condition that would not satisfy the demands of antiseptis. Frequent washing out of the ear by macerating the epithelium of the canal produces the same effects. At the time that the furuncle first makes its appearance, watery applications should not be permitted, but ointments containing zinc oxide, phenol, or menthol will render great service. Liquid petrolatum and glycerin may be used as a basis, and the solutions applied by means of a small compress of gauze inserted into the meatus. If the abscess is far advanced it may be treated with dilute alcohol (50 per cent.). It is not advisable to be in too much of a hurry to incise the abscess, but it is better to wait until the core should be ready to come out so that it can be easily discharged. At this period the sharp pain may be controlled by the following:

R Cocainæ.....0.20 to 1 gramme;
Resorcin,0.50 gramme;
Aque destillate }
Glycerin, }
Alcoholis, }
M. Ft. solutio. For external use.

In order to prevent a return, a local bath may be given by using the following solution:

R Acidi salicylici0.20 gramme;
Acidi boric,10 grammes;
Alcoholis }
Aque destillate, }
M. Ft. solutio.

The canal of the ear to be filled with this solution once a day and allowed to remain undisturbed for fifteen minutes.

This solution will cause epithelial desquamation. It will be well to have this desquamation repeated two or three times before stopping the treatment. For the following three months instillations of this kind should be kept up once a week.—*Journal de médecine de Paris*, March 4th.)

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MONDAY, SEPTEMBER 21, 1998

Our common and tropical diseases ought to be the largest. In addition to the fact that many of our soldiers and sailors are serving in tropical and subtropical climates, there is the fact of our commerce, which reaches all ports and through which we are exposed to the diseases that are ordinarily confined to warm countries.

On April 6th the British steamship *Burrfield* arrived at Reedy Island, the national quarantine station for Philadelphia, with four of her crew of fifty-one men ill. It was learned that two sailors had died on the voyage from Bombay within twenty-four hours of having been taken ill. The ship had been trading between Bombay and Calcutta before loading with manganese ore for Philadelphia, and it is supposed that in Calcutta exposure of the Lascars constituting the crew occurred. The disease from which the four men were suffering was finally reported to be plague on April 9th, after the bacteriological examination had been completed, and on the following day the patients were laid down in the hospital.

The existence of plague so near one of our large ports and its prompt discovery demonstrate the utility and the great value of the national quarantine system. It is not at all likely that the disease will obtain a foothold in Philadelphia. The destruction of the rats in the ship and the isolation of the crew until the period of incubation has passed, with the complete isolation of

Soldiers, sailors, missionaries, merchants, and others returning from Puerto Rico, Hawaii, Guam, and the Philippine Islands constitute a potential disease producing nucleus of population which should always be taken into account, but which should never, by any means, be persecuted.

Those who have deemed the search for the underlying causes of the phenomena of senescence a profitable subject for scientific investigation may be classified into two sharply defined groups. At the head of one of these stands the illustrious Metchnikoff, who regards old age as the result of the operation of external agencies upon the living organism, as a form of intoxication of the cells by the productions of microbic activity in the lower part of the alimentary canal. The other group, represented by Dr. Charles Sedgwick Minot, the distinguished professor of embryology of Harvard University, holds that the causes of old age are intrinsic, are inseparably bound up with the developmental processes of the cells.

That this subject could profitably lend itself to laboratory investigation is a fine tribute to the extraordinary advances of modern biology. Indeed, the biologist is the only one who could possibly be expected to answer the riddle of old age and mortality, if such an answer were possible. The practitioner who daily encounters manifold phases of senility may, in the course of the speculation which such phenomena cannot fail to arouse, compare it to the familiar atrophic, degenerative, and toxic changes in the organism, but this is merely skimming the surface of the problem. On the other hand, the biologist probes into the inmost recesses of the cell, and in its gradual development he discerns the causes that determine the ultimate decline and cessation of the vital process.

It was a rare privilege to be able to listen to the fascinating lecture delivered by Professor Minot before the Harvey Society on February 24th, on The Nature and Cause of Old Age. His discussion concerned itself with two important lines of investigation which he and his pupils had followed for a number of years, namely, into the laws of animal growth and the laws of cellular change. He also propounded his own personal

views as to the significance of old age, views which for their ingenuity and sanity stand in sharp contrast to much of the sensational quasi-scientific literature with which this subject abounds.

AGE AND THE RATE OF GROWTH.

In studying the rate of growth of guinea pigs, rabbits, and chicks, Professor Minot has found that the percentage of growth gradually diminishes from birth onward, and the falling off is far more rapid earlier than later. Thus, in the guinea pig the most rapid decline in the rate of growth occurs during the first three months of life. This may be contrary to what one would generally expect. In the chick two thirds of the power of growth is lost in forty days, and the remaining third is lost in six months. The rabbit is born much more immature than the guinea pig or the chick, it is born relatively embryonic, and its initial loss in the rate of growth is much more rapid than that which occurs in the guinea pig or chick. In fact, the growth of the *fœtus* is much more rapid than that of the animal after birth. From ten to fifteen days after conception the growth of the rabbit embryo is represented by an increment of 700 per cent. Fifteen to twenty days later the increment is only 200 per cent. This remarkable drop in the increment of growth illustrates what is also true of other species studied, namely, that the further back one goes toward the ovum stage the greater is the rate of growth. From the time the egg is fecundated until the animal is born, the loss in the increment of growth amounts to 98.3 per cent. It is thus seen that the animal loses the greater part of its power to grow even before it is born.

Associated with the remarkable decline in the rate of growth that occurs from the very beginning of individual life, there occurs a whole cycle or series of changes in the structure and development of the cells or entire generations of cells. This cycle is called by Professor Minot "cytomorphosis," and consists of three stages, namely, the embryonic, that of differentiation, and that of degeneration. The stage of differentiation comprises two forms, cytostatic and cytodynamic. In the cytostatic variety of differentiation the object is to produce a material having a definite composition, like the intercellular substance of bone. In the cytodynamic variety substances are produced that have an active metabolic function, like the products of the secretory activity of glands. In the static differentiation the protoplasm is early sacrificed, is changed into something which is not protoplasm. The final prod-

uct is the result of the degeneration of the protoplasm. The cytomorphic process in this case is a rapid one. In other cells, such as nerve cells, the cytomorphic process is not so rapid, but is greatly delayed.

In connection with the cytomorphic changes in the cells, Professor Minot studied the concomitant changes occurring in the nucleus and in the protoplasm. In early embryonic life all the nuclei are uniform in structure. In the course of ten to sixteen days there occurs an astounding change in the nuclei. The chromatin forms a finer network and the protoplasm is no longer uniform in structure. There is an accumulation of chromatin in the nucleus before differentiation, and a disappearance after differentiation has begun. The protoplasm grows at the expense of the material stored up in the nucleus. The latter is the "kitchen" and the protoplasm is the "dining room."

AGE AND THE FACULTY OF ACQUIRING KNOWLEDGE.

The size of an animal is not dependent upon the size of its cells, but upon the number of them, says Professor Minot. As the animal grows older the most obvious change in the cells is the extraordinary growth of the protoplasm at the expense of the nuclei. The growth of the protoplasm is the cause of the loss of the power of growth. It is the cause of cytomorphosis. As differentiation is accomplished growth is inhibited. In comparing the muscle cells of the embryonic salamander with those of the adult animal, Eickelsheimer found that the protoplasm increased the size of the nucleus from 27 to 226 times. Differentiation and decline in the rate of growth are thus causally interwoven.

This is no illusory conception, and its truth is illustrated in many ways in the life of the organism. The child is born with an immature brain, and the development of most of its nerve cells goes on after birth. At the end of the first year it has acquired conception of time and space and of color and sound. During this period it has learned more than it does at any subsequent period. It is a familiar experience that the power of acquiring knowledge diminishes as one grows older. This falling off in the development of the brain cells is characterized as the condition of "permanent fatigue." The average person reaches this early. Permanent fatigue is a characteristic of old age, whose nature is thus better understood by a study of the final developmental changes in the cells than by the study of the macroscopic phenomena of sclerosis and degeneration. It is to

to the fact that the human body is not a machine, but a living organism, and that the human mind is not a mere collection of ideas, but a living, growing, and changing entity.

THE FUNDAMENTAL OF LOW ANIMAL ORGANISMS

One marvels at the extraordinary longevity of the human organism. But these marvels, however, have a low degree of organization. In order to produce the higher forms of organization, nature has adopted the principle of growth. That is, the increase in the protoplasm at the expense of the nucleus is the essential thing in making us old. The increase in the nucleus at the expense of protoplasm is the essential thing in making us young. Thus, in the process of fertilization the protoplasm does not grow, but its nucleus increases. The result is a further increase in the size of the nucleus, which is the essential thing in making us old. This excess of the nucleus makes it possible to create the embryonic cells. Rejuvenation and senescence may go on side by side, as seen in the case of the osteoblasts and osteoclasts. This association does not invalidate the fundamental conception of old age as the excessive production of protoplasm with the gradual loss of the power of growth associated with an increased differentiation. As the result of the last, one gets greater enjoyment out of life. The price which we pay for this enjoyment is, in the end, death. The lowliest organisms do not have to die. At the price of earthly immortality they lose the larger gift of enlightened experience.

FADS IN DIETETICS.

What with the vegetarians who eat no meat, and the rheumatic sufferers who eat no fruit, and the gouty who take no nitrogen if they know it, and the dyspeptics who eat only foodless food, the world seems to lose one of its chief joys, a good meal. And it is not quite true that instinct rises superior to theory, and that after all common sense is a good thing. Readers and writers are equally influenced by chemical symbols, and it is not rare for a pallid dyspeptic of the modern type to endeavor to practise vegetarianism. The latter is largely set forth by some of the physiological chemists. It is a pity that the medical profession, and the public, are so easily misled by a little need of this counsel as ours do. Our hustling population requires a good deal of instruction, and are suffering from a lack of common sense.

As a race, possibly we have not lived long enough in America to be thoroughly acclimated.

Few of our families have been on this side of the Atlantic for over a hundred years, and those that have enroll themselves in societies to emphasize their own regrettable scarcity. To judge by a certain assumed standard, perhaps we have not yet learned to thrive physically, for we do not yet reproduce ourselves in great numbers under the new and trying conditions. And to this race, struggling to establish a *modus vivendi* amid a new environment and a climate of vastly greater vicissitudes of heat and cold than that to which our ancestors had become accustomed by residence of thousands of years, theorists are preaching the debilitating doctrine of a restricted diet.

We speak of the "effete" populations of Europe, but no one who had seen them would ever call the European peoples effete; and the impression is ineffaceable that what we need here is better cooked food and more of it rather than the diet fads that now captivate our nervous countrymen. It would certainly be difficult to construct any scheme of diet on which the profession would agree. There is scarcely an article but finds condemnation somewhere among us. The banana, dear to childhood, is denounced by the pædiatrist as unwholesome, though whole populations live upon it; while no printed diet list would include pork and bacon, which Dr. Woods Hutchinson insists are the keystone of our national greatness. Even in the dietetics of disease—this rather than health being our chosen realm—utter confusion and disagreement reign. Chemical formulas of horrifying elaboration lead one to condemn red meat in gout, another to pronounce it a nutriment readily assimilable and easily disposed of. And the quarrels over food stuffs permissible to the rheumatic are equalled only by those over carbohydrates in grave diabetes. It is a crying need of the time that the profession reach a consensus of conviction and teaching on the basic facts of nutrition in health and disease before they attack the more venial superstitions and absurdities of a much beset laity. First of all, brethren, shall we not cast out the beam that is in our own eye?

THE CHIMERA OF THE INTESTINAL DISINFECTANT.

Some of our professional brethren seem to cherish the idea that the internal administration of disinfectants has a directly curative action in cases of typhoid fever, for example. They appear to hold that the aromatic oils, etc., which they confidently prescribe in various combinations exert a specific effect, essentially that of

disinfection, upon the diseased intestinal mucous membrane. We think we may express our decided disbelief in the efficacy of such medication without justly laying ourselves open to the charge of therapeutic pessimism.

It may be conceded that by means of voluminous enteroclysis a disinfectant might be brought into direct action upon the affected structure, but it is nothing of that sort that we have in mind; it is the notion of producing an antiseptic effect upon the membrane involved by giving a medicine by the mouth, either a chemical compound or one or more essential oils. Let us reflect upon what must happen when any such substance is swallowed. Suppose it is not absorbed into the blood, but passes through the alimentary canal more or less unchanged, to be finally discharged by the anus. In its passage it would hardly come in contact with the intestinal mucous membrane, except in such minute amount and in such a state of dilution as to be practically inoperative. Even if the object was simply to disinfect the fecal contents, it would be necessary to administer far greater quantities of the drug than the alimentary canal would tolerate. But that is not the object; what is aimed at is the direct action of the medicament on the mucous coat of the intestine itself, and, to reach that structure in appreciable amount, it would require to be given in still greater quantities, such as nobody would dream that it was safe to employ.

Suppose, on the other hand, that the drug is absorbed from the stomach into the blood. To exert any action upon the intestinal mucous membrane, it would have to be eliminated by that membrane. If there is any antiseptic substance which, taken by the mouth, is so eliminated, we may expect the desired effect in degree proportioned to the amount that can safely be administered. But that degree must be infinitesimal so far as known medicaments are concerned, and we can hardly conceive that any will ever be found that, given in reasonably safe amounts, will meet with intestinal elimination in quantities sufficient to exert a decided antiseptic action upon the mucous membrane of the intestine. Hence we must look upon the intestinal disinfectant as a chimæra.

THE STIGMATA OF TUBERCULOUS DISEASE.

Most of the real progress which has been made in recent years in obtaining better results in the treatment of tuberculous patients has been based upon the earlier recognition of the disease. In addition to the usual symptoms and physical signs elicited in the examination of the patient

there are many minor physical peculiarities which to the practised eye are not without value in contributing to the picture that makes the early diagnosis less difficult. Among these are a slender figure with flat, narrow chest and sloping shoulders; an oval face with thin lips, delicately chiselled features, and a pale complexion or one of pink and white seashell tints; lustrous, sensitive eyes with widely dilated pupils and symmetrically arched brows; tapering fingers with almond-shaped nails; fair, fine hair; small bones; and a smooth, hairless skin. Curiously enough, these bodily characteristics which are now taken to indicate a poor physique and a predisposition to tuberculous disease seem to have constituted the preraphaelite type of ascetic beauty and religious devotion. They are familiar to us in the stained glass saints of ecclesiastical art, in the Madonnas of Cimabue, and in the angels of Botticelli and Fra Angelico. If St. Ursula and her ten thousand pallid virgins, as painted by Memling, could be transmuted into the flesh to-day, a goodly number of them would certainly be found eligible for sanatorium treatment. With these physical traits there are often united the precocious mentality and emotional qualities which enter so largely into the poetic and artistic temperament. A highly developed example of this association is seen in the portraits of the poet Shelley, who, like his contemporary Keats, suffered from pulmonary consumption and probably escaped the fate of the latter only by his tragic death by drowning in the Bay of Leghorn.

More positive in their pathological significance are the keloid cicatrices of an old cervical adenitis; a sluggish fistula in ano; clubbed finger tips with nails of exaggerated convexity; nodular or fascicular myoidema; sinking in of the spaces above and below the clavicles; pityriasis versicolor; dilatation of the superficial veins of the chest above the nipples; the stiffened joint or undeveloped limb—sequels of bone or joint tuberculous disease in childhood; scars from cold abscesses; and sometimes a peculiar waxy pallor of the tip of the nose, against which the orifices of the sebaceous ducts stand out as brownish dots in marked relief. These lesser stigmata may perhaps seem almost trivial when compared with the positive auscultatory and other findings revealed by a searching exploration of the chest, but when it is remembered that the earliest diagnosis of incipient pulmonary tuberculosis is only to be arrived at by a judicial weighing of little deviations from the normal and slight signs which are often ambiguous, no shred of contributory evidence will be overlooked by the careful and painstaking clinician.

tion of Cul-de-sac, by Dr. W. E.
f Leber's Apparatus for Transil-
Dr. W. H. W. (1890). (a)
m in Graves's Disease, by Dr. H. Gif-
(b) On the Frequency of Blindness
t of the Accessory Sinuses, by Dr.

[illegible]

NEW YORK CITY AND STATE

The Centennial of the Medical Society of the County of Onondaga will be celebrated at Syracuse on Tuesday, May 8, 1906. The following programme has been arranged for the occasion: Surgeons and Surgery of the County During the Past Hundred Years, by Dr. John Van Duyn; Oration in Medicine, by Dr. H. L. Elsner; The Specialists in Medicine, by Dr. A. Jacobi, New York; Reminiscences, by Dr. Alfred Mercer; Medical Practice in the Country, Past and Present, by Dr. W. W. Munson, Pasadena, Cal.; Reminiscences, by Dr. Dallas, Dr. Maxson, and Dr. Cook; President's address, to be followed by a banquet at 7 p. m. The committee of arrangements is composed of the following named gentlemen: Dr. Alfred Mercer, chairman; Dr. John Van Duyn, Dr. Henry L. Elsner, Dr. Edward S. Van Duyn, Dr. I. Harris Levy, secretary; Dr. Albert S. Hotaling, ex-officio.

The Late Dr. George Eyerson Fowler.—At a meeting of the Medical Association of the Greater City of New York, held on April 9, 1906, the following report was presented and adopted: "The death of our distinguished fellow member, Dr. George Ryerson Fowler, has been felt by all of us, not only as a personal loss, but as a loss to the ranks of able and progressive surgeons. He had lived and worked long enough to establish his rank. He was among that small class of ceaselessly active, thoroughly grounded, splendidly trained, and self disciplined surgeons, who have reached a time of life where every act tells for good. He would have disdained to be considered in a class by himself, but, rather, regarded it as his greatest privilege and noblest duty to work shoulder to shoulder with his comrades in science. Those who knew him best as a teacher loved and venerated his wise and experienced words. Those who watched his surgical work noted his originality and unerring correctness of action. Those who knew him as a man, saw throughout his life, devotion to principle and quick response to every call of duty, regardless of personal sacrifice. Never considering himself first, he served not only his profession, but his school, his State, and his country. His personal qualities of buoyancy, modesty, and truthfulness excited a pleasant interest in all his public utterances. Never speculative, and always eminently practical, he was always fearless and ready with his pen. When his views were matured his writings always rang true, and his thoughtful and temperate suggestions were of great wisdom. Those who were fortunate enough to be associated with him in hospital work found him ever watchful

epsis. His influence on the surgical work of his
will stand among the strongest of the workers
of his time. As was written on the tomb of Charles Wes-

The New York Academy of Medicine.—The following papers were presented at the meeting held on Thursday, April 1, 1886, at the Academy of Medicine, 514 North Lexington Street (formerly 100 West Third Street), Baltimore: State Pathological Institute. Discussion by Dr. Adolf Meyer and others. Paper: Disturbance of Sensation in Visceral Diseases, by

Dr. Joseph Fraenkel; discussion; Paper: The Focal Lesions of Jacksonian Epilepsy, by Professor Charles K. Mills, of Philadelphia; discussion by Dr. Edward D. Fisher, Dr. Joseph Collins, Dr. T. P. Prout, and others.

At a meeting of the *Section in Medicine*, held on Tuesday, April 17th, the following programme was presented: Clinical reports: (a) An Unusual Case of Gonorrhœal Endocarditis, (b) A Case of Primary Sarcoma of the Stomach, by Dr. Morris Manges; A Discussion of Streptococcus and Staphylococcus Sepsis: (a) The Bacteriology of the Blood in Sepsis, by Dr. R. I. Wilson; (b) The Puerperal Types of Sepsis, by Dr. William S. Stone; (c) The Medical Types of Sepsis, by Dr. Harlow Brooks; (d) The Surgical Types of Sepsis, by Dr. J. A. Hartwell. Discussion by Dr. W. B. James, Dr. H. J. Boldt, Dr. J. F. Erdman, Dr. Alexander Lambert, Dr. J. B. Walker, Dr. Charles Norris, Dr. N. B. Pattes, Dr. Ellice McDonald, and others.

The *Section in Genitourinary Diseases* held a meeting on Wednesday, April 18th, with the following order: Reports of cases. Reports on Atrophy of the Testicle, with a Report of an Interesting Case, by Dr. L. Bolton Bangs; Demonstration of an Improved Four Glass Urinary Test, by Dr. Abraham L. Wolbarst. Papers: (a) Perinephritis, by Dr. A. A. Berg; (b) Multiple Septic Infarcts of the Kidney (Unilateral), by Dr. George E. Brewer.

A meeting of the *Section in Orthopædic Surgery* was held on Friday, April 20th, with the order as follows: Presentation of cases: (a) Four Cases of Atrophic Paralysis, by Dr. W. W. Lesem; (b) Cases of Rheumatoid Arthritis, Showing Results of Treatment, by invitation, Dr. William Benham Snow; (c) A Case of Stills Disease, by Dr. V. P. Gibney. Papers: (a) The Differential Diagnosis of the Various Joint Diseases Generally Classed as Rheumatoid Arthritis, by Dr. P. William Nathan; (b) The Treatment of Rheumatoid Arthritis and Allied Affections of the Joints, by invitation, Dr. William Benham Snow. Discussion by Dr. C. L. Dana, Dr. Hermann Grad, Dr. Sidney A. Twinch, Dr. V. P. Gibney, and others.

The *Section in Laryngology and Rhinology* will hold a meeting on Wednesday, April 25th, when the following programme will be presented: Presentation of cases. Papers: (a) Some Cases of Submucous Resection, by Dr. W. W. Carter; (b) Report of a Case of Papilloma of the Larynx in a Child, by Dr. Forbes R. McCreery; (c) Clinical Report on the Use of Alynin as a Local Anæsthetic in Intranasal Surgery, by Dr. Wendell C. Phillips. Presentation of new instruments and specimens.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Health Department, for the following statement of new cases and deaths reported for the two weeks ending April 14, 1906:

	—April 14—		—April 7—	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	30	10	29	6
Smallpox.....	5	1	2	..
Varicella.....	93	1	136	..
Measles.....	1,512	47	1,809	72
Scarlet fever.....	220	20	226	8
Whooping cough.....	34	6	36	4
Diphtheria.....	328	35	324	39
Tuberculous pulmonaryis.....	390	183	386	185
Cerebrospinal meningitis.....	41	30	35	27
Totals.....	2,653	332	2,986	341

Society Meetings for the Coming Week:

MONDAY, April 23rd.—Medical Society of the County of New York; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

TUESDAY, April 24th.—New York Medical Union (private); Metropolitan Medical Society, New York (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynecology); Richmond, Va., Academy of Medicine and Surgery; Rome, N. Y., Medical Society; Boston Society of Medical Sciences (private).

WEDNESDAY, April 25th.—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Philadelphia County Medical Society; New York Dermatological Society (private); Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society (Pittsfield) (annual meeting).

THURSDAY, April 26th.—New York Academy of Medicine (Section in Obstetrics and Gynecology); New York

Orthopædic Society; Brooklyn Pathological Society; Brooklyn Society for Neurology; Roxbury, Mass., Society for Medical Improvement (private—annual); Pathological Society of Philadelphia (conversational); Church Hill Medical Society of Richmond, Va.; New York Celtic Medical Society.

FRIDAY, April 27th.—New York Clinical Society (annual—private); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, April 28th.—New York Medical and Surgical Society (private); Harvard Medical Society, New York (private).

PHILADELPHIA AND THE MIDDLE STATES

Meadville, Pa., to License Milk Dealers.—The board of health of Meadville, Pa., has passed a resolution requiring all persons who wish to engage in the business of selling milk to obtain a license.

Philadelphia Municipal Hospital Statistics for March, 1906:

	Remaining last report	Received	Discharged	Died	Remaining
Diphtheria.....	164	136	102	20	118
Scarlet fever.....	126	60	76	3	107
Smallpox.....	0	2	0	0	2
Other diseases.....	0	5	0	1	4

Typhoid Fever in Pittsburgh.—Cases of typhoid fever are occurring in Pittsburgh with a frequency which bids fair to assume epidemic proportions. In three days 171 cases were reported to the bureau of health. For the week ending April 6th, 230 cases were reported, and during the previous week 225 cases were reported.

The Philadelphia School for Nurses, an organization for the didactic instruction of nurses, intends to erect a building at the northeast corner of Twenty-third and Chestnut streets. It is to be hoped that when this building is completed the school will put some practical training into its curriculum, which is what nurses need more than lectures and text book knowledge.

Pennsylvania State Hospital for Insane Criminals.—On April 12th bids were opened in the office of the Speaker of the House of Representatives of Pennsylvania for the erection of a hospital for insane criminals. This is a step in advance in the treatment of mental disease. Sociologists and economists have argued and preached for many years for the separation of the criminal insane from other insane patients. In this matter New York and Massachusetts are far in advance of other American commonwealths.

Scientific Society Meetings in Philadelphia for the Week Ending April 28, 1906.—Monday, April 23rd, Mineralogical and Geological Section, Academy of Natural Sciences; Society of Normal and Pathological Physiology, University of Pennsylvania. Tuesday, April 24th, Medical Society; Philadelphia Neurological Society. Wednesday, April 25th, Philadelphia County Medical Society. Thursday, April 26th, Pathological Society; Entomological Section, Academy of Natural Sciences; Section Meeting, Franklin Institute. Friday, April 27th, South Branch, Philadelphia County Medical Society; Northern Medical Association.

Charitable Bequests.—By the will of Miss Catharine Drake, the Easton (Pa.) Hospital receives \$60,000, and the Children's Home and the Old Ladies' Home of Easton receive \$500 each.

By the will of Samuel H. Ashbridge, former mayor of Philadelphia, upon the death of his widow the residuary estate is to be placed in the control of a board of nine trustees for the foundation of a nonsectarian home for indigent widows and single women, to be known as the Samuel H. Ashbridge Home. Three of the trustees are to be nominated by the board of judges of the courts of common pleas, Philadelphia, three by the Grand Lodge of Odd Fellows, and three by the Pennsylvania State Council, Order of United American Mechanics.

Philadelphia Bureau of Health Statistics.—During March, 1906, the division of medical inspection of the bureau of health made 10,667 inspections, exclusive of schools; ordered 2,158 fumigations; referred 45 cases for special diagnosis; made 6,783 visits to schools; excluded 1,124 children from school; took 323 cultures; made 283 injections of antitoxine; and did 460 vaccinations. In the division of vital statistics 2,435 deaths were reported, 2,590

The Board of Health of Philadelphia, during the week ending April 7, 1910, the following number of communicable diseases were reported:—

Disease	Deaths
Diphtheria	1
Scarlatina	0
Typhoid fever	0
Measles	0
Whooping cough	0
Pneumonia	0
Smallpox	0
Polio	0
Marasmus	0
Violent causes	0
Total	1

The following table shows the number of deaths from the above diseases during the week ending April 7, 1910, as compared with the corresponding week last year, showing a decrease of 1 death, and making the death rate for the week 20.50. The number of cases and deaths from infectious diseases was as follows: Diphtheria, 37 cases, 5 deaths; scarlatina, 47 cases, no deaths; typhoid fever, 4 cases, no deaths; measles, 159 cases, 2 deaths; whooping cough, 1 case, no deaths; pneumonia, 37 cases, no deaths. The deaths from pneumonia were 37, whooping cough 1, heart disease 24, bronchitis 6, and marasmus 2. There were 11 deaths from violent causes. The number of children who died under one year of age was 55, under five years of age 75, persons over sixty years of age 43, deaths in public institutions 66.

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Typhoid fever	0
Measles	0
Whooping cough	0
Pneumonia	0
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Deaths were recorded by the weather bureau.

BOSTON AND NEW ENGLAND

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A Hospital for Consumptives, at Boston. The mayor has just received a commission to plan for the new hospital for consumptives. It is to be a minority, to have it an institution for the treatment of consumptives. The hospital is to be a large building, and a large number of consumptives come into it.

The Windham County (Conn.) Medical Association. The annual meeting of the Windham County Medical Association will be held at the Windham Hotel, on Thursday, April 14th. The programme for this meeting includes a paper on "Functional Disease of the Liver," by Dr. J. B. Kent, of Norwich; general discussion. Dr. Charles C. Childersleeve, East Woodstock; vice-president, Dr. Robert C. White, Willimantic; secretary, Dr. James L. Gardner, Central Village; censors, Dr. J. B. Kent, Dr. W. M. Thayer, and Dr. A. C. Thayer.

The Mortality of Boston.—The number of deaths reported to the board of health for the week ending April 14th was 234, as against 235 the corresponding week last year, showing a decrease of 1 death, and making the death rate for the week 20.50. The number of cases and deaths from infectious diseases was as follows: Diphtheria, 37 cases, 5 deaths; scarlatina, 47 cases, no deaths; typhoid fever, 4 cases, no deaths; measles, 159 cases, 2 deaths; whooping cough, 1 case, no deaths; pneumonia, 37 cases, no deaths. The deaths from pneumonia were 37, whooping cough 1, heart disease 24, bronchitis 6, and marasmus 2. There were 11 deaths from violent causes. The number of children who died under one year of age was 55, under five years of age 75, persons over sixty years of age 43, deaths in public institutions 66.

The Boston Medical Library Society.—A meeting in connection with the South District Branch of the Massachusetts Medical Society, was held at the library on March 28th. The subject for discussion was the Treatment of Heart Disease. Dr. F. C. Shattuck spoke on Depletion; Dr. Franz Pfaff on the Use and Abuse of Digitalis; Dr. Charles E. Quimby, of New York, on Pneumatic Differentiation; and Dr. F. B. Kinnicutt, of New York, on the Nauheim Treatment.

A meeting of the surgical section of this society was held on April 1st. A paper on "Hypertrophic Osteoarthritis" was read by Dr. J. M. T. Finney, of Baltimore; Dr. J. G. Shattuck opened the discussion. Dr. E. H. Bradford read a paper on "The Hyperemic Treatment of Inflamed Bones and Joints," which was discussed by Dr. J. E. Goldthwaite, Dr. E. A. Locke, and Dr. J. B. Blake.

BALTIMORE AND THE SOUTH

The Rappahannock Medical Association.—At a meeting, held at Fredericksburg, Va., on Friday, April 6th, Dr. A. R. Adams, of Washington, D. C., read a paper on "Osteoarthritis."

The North Carolina Medical College.—At the graduating exercises, held at Charlotte, on Tuesday, April 3rd, twenty-nine graduates received their diplomas. The principal address was made by Dr. J. E. Goldthwaite, N. C.

The Cabell County (W. Va.) Medical Society.—At a meeting of this society, held at Huntington, on Thursday, April 4th, Dr. M. Baker read a paper on "The Value of Microscopical Examinations of Sputum."

The Hart County (Ky.) Medical Society.—A meeting of this society was held at Mumfordsville, on Wednesday, April 4th. Dr. C. J. Walton in the chair. A paper on "Spasmodic Dyspepsia" was read by Dr. Henry C. Bruner, and Dr. Adams delivered an address on "Surgery in the Country."

A COMMITTEE OF THE ST. JOSEPH'S HOSPITAL, Charlotte, N. C., has just received a commission to plan for the new hospital for consumptives. It is to be a minority, to have it an institution for the treatment of consumptives. The hospital is to be a large building, and a large number of consumptives come into it.

time. The \$10,000 addition will make St. Peter's one of the largest and best equipped hospitals in the State.

The Medical College of South Carolina. The graduating exercises of this college were held at Charleston, on Wednesday, April 11th, when eight candidates received their diplomas and the degree in medicine. The following is the list of graduates in order of merit: W. B. W. Howe, Charleston; St. J. R. De Caradeuc, Charleston; W. D. Gregory, Blaney; W. L. Young, Luray; L. M. Stokes, Walterboro; O. F. Eckel, Edinburgh, Ill.; J. O. Lea, Hodge; R. E. Yellett, Eutawville. Dr. Howe, being the first honor graduate, wins the college cup.

CHICAGO AND THE WEST.

The North Idaho Medical Society will hold its next meeting at Cœur d'Alene City, on June 19, 1906. The society will visit Spokane, Wash., for the purpose of inspecting the new St. Luke's Hospital, a Protestant institution in that city.

The St. Clair County (Ill.) Medical Society.—At the annual meeting, held on Thursday, April 5th, officers were elected as follows: President, Dr. Hugo E. Wangelin, of Belleville; vice-president, Dr. J. W. Rendleman, of East St. Louis; secretary, Dr. James W. Twitchell, of Belleville; treasurer, Dr. A. E. Hansing, of East St. Louis.

The Indiana University.—It is announced that the following named gentlemen will occupy chairs in the new medical college to be established in connection with this university: Dr. Samuel E. Earp, Practice of Medicine; Dr. Allison Maxwell, Diseases of the Chest, and dean of the faculty. Dr. Charles R. Sowder and Dr. Simon P. Scherer will also be connected with the department of medicine. Dr. Thomas E. Courtney, who has resigned as lecturer on anatomy to the Indiana Medical College, the school of medicine of Purdue University, has been offered the professorship of anatomy in the new college.

Statement of Mortality in Chicago for the Week Ending April 7, 1906, compared with the preceding week, and with the corresponding week of 1905. Death rates computed on United States Census Bureau's midyear populations—2,049,185 for 1906, and 1,990,750 for 1905:

	April 7, 1906	Mar. 31, 1906	April 8, 1905
Total deaths, all causes	660	582	512
Annual death rate in 1,000	16.80	14.80	13.40
Sexes			
Males	382	306	304
Females	278	276	208
Ages—			
Under 1 year of age	116	126	104
Between 1 and 5 years of age	56	50	57
Between 5 and 20 years of age	43	49	40
Between 20 and 60 years of age	292	237	221
Over 60 years of age	153	120	90
Important causes of death—			
Apoplexy	15	20	15
Bright's disease	53	37	44
Bronchitis	22	15	14
Consumption	85	70	67
Cancer	15	23	22
Convulsions	6	14	8
Diphtheria	8	8	9
Heart diseases	52	48	37
Influenza	8	5	2
Intestinal diseases, acute	29	28	22
Measles	4	5	16
Nervous diseases	24	30	16
Pneumonia	135	102	70
Scarlet fever	9	10	1
Suicide	3	8	9
Typhoid fever	10	7	4
Violence (other than suicide)	30	28	27
Whooping cough	2	3	13
All other causes	140	121	113

The comparative statement of mortality shows 78 more deaths than during the previous week and 148 more than in the corresponding week of 1905. The increase in the annual rate is equivalent to 13.5 and 25.3 per cent., respectively. Study of the statement shows that the larger part of this increase was among those over 60 years of age and, naturally, among those suffering from the chronic diseases—Bright's, consumption, heart, and nervous diseases, in addition to that "friend of the aged," lobar pneumonia, which carried off 135 victims—the greatest number of any week of the current pneumonia season. The 153 deaths among those over 60 years of age is nearly 10 per cent. higher than the normal ratio of the deaths at all ages. At this season of the year the proportion of over 60 years of age deaths is about 21 per cent. of the total deaths. For this week it is slightly more than 23 per cent. For the corresponding week of last year this rate was only 17.5 per cent.

Pith of Current Literature.

THE BOSTON MEDICAL AND SURGICAL JOURNAL

April 14, 1906.

1. The Methods and Aims of the Physician.
By EDWARD O. OTIS.
2. Traumatic Defects of the Skull. Their Relation to Epilepsy. A Clinical and Experimental Study of their Repair.
By DUDLEY P. ALLEN, HENRY L. SANFORD, and D. H. DOLLEY.
3. The Defensive Properties of the Organism,
By S. C. DICKERSON.

2. Traumatic Defects of the Skull. Their Relation to Epilepsy. A Clinical and Experimental Study of Their Repair.—Allen expresses the opinion that it seems to be a universal belief that epilepsy was and often does result from trauma. In discussing traumatic epilepsy it must be borne in mind that the symptoms may result, not from injuries to the skull alone, but to the brain as well. They may result also from the formation of new scar tissue as well as from hyperostoses. The stimulus to attacks of epilepsy may also arise from irritation to the peripheral nerves. The following five important questions will come to the surgeons: 1. Can epilepsy be relieved by operative interference? The statistics are unreliable, and the experience of different surgeons is widely at variance. 2. At what period should such operations be performed? The prevailing opinion seems to be that early operation is highly desirable. 3. What class of cases are suited to operation? The purpose of the author's paper is to show that all traumatisms to the skull resulting in bone defects should be repaired as soon as possible, not awaiting the possible development of epilepsy. 4. What are the defects of methods commonly in vogue? A review of the literature is given. 5. What operative procedures are best fitted to give permanent relief? Dr. Allen answers this question by describing his method of operation: After the surface of the brain upon which the bone flap is to be implanted has thus been made clear and any hæmorrhage has been checked, the scalp is removed from an area of the skull of equal size with the opening. Care should be taken that the periosteum be left intact. It is also important that this portion of the skull be as thick as possible. Thus, the posterior parietal region is preferable to the temporal region. After a careful removal the graft is placed between two gauze sponges moistened in warm normal salt solution, and laying it upon the table, is flattened out by a few slight blows of the mallet. The plate of bone is then laid upon the opening of the skull, the bone being next to the brain. Over the wound the scalp is drawn and sutured. Seven patients were operated upon in this manner. In every case the wound healed by first intuition and the defect has been repaired by what seemed to be bony structure. In order to study more fully the process of repair, a series of successful observations were undertaken upon dogs by Dr. H. L. Sanford. The final conclusions are: 1. Defects of the human skull can be covered by bone. 2. The bone may be secured from a portion of skull adjoining the defect. 3. This bone graft represents essentially the outer table of the skull, with the periosteum covering it. 4. No pedicle need be preserved in order to insure the viability of the bone graft. 5. Experiments on dogs show the graft to be solid at three months. 6. Histological examination shows that the bone remains viable and grows into its new position.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

April 14, 1906.

1. Twentieth Century Surgical Problems.
By H. D. NILES.
2. Infantile Scorbutus. An Analysis of Fifty Cases.
By JOHN LOVETT MORSE.

gives a 1 to 100 solution, which can be readily diluted to the desired strength.

MEDICAL RECORD.

April 14, 1906.

1. A Biological Clinic on Gustav Flaubert.
By GEORGE M. GOULD.
2. Saline Beverages in Typhoid Fever and their Effects on Heat Dissipation.
By JOHN B. TOWN.
3. The Diagnosis of Surgical Diseases of the Kidney.
By ALBERT A. BERG.
4. Turbinectomy.
By E. HARRISON GRIFFIN.

2. Saline Beverages in Typhoid Fever and Their Effects on Heat Dissipation.—Todd says that in the treatment of typhoid fever there is universal agreement upon the value of milk diet, but in the further management there are three principal modes of practice. First, the various intestinal antiseptics; second, the plan of no medication; and, third, the plan of physiological elimination of bacteria and their toxins, and that of heat dissipation by saline beverages. He illustrates the three varieties of treatment by eight cases. From these the author draws the conclusion that the use of saline beverages at the same time augments the elimination of bacteria and toxins, also preserves the molecular constituents of the blood, and aids materially in reducing the temperature. The saline beverages preserve the germicidal powers of the blood by acting upon the albuminates of the serum or by increasing the alkalinity of the blood. The lymphatic system should receive the earliest attention in this disease, as upon its phagocytic activity depends the result. If a proper amount of fluids and alkaline salts are provided in the earliest stage of typhoid fever their efforts are helpful, and if they are withheld the efforts of the protective forces of the body are hampered and the chances for an unfavorable issue in the case are increased. In giving the saline beverages ten grains of sodium chloride and five grains of potassium bicarbonate are added to eight ounces of water; a teaspoonful of lemon juice is added, which produces a mild effervescence and which renders the drink very palatable.

3. The Diagnosis of Surgical Diseases of the Kidney.—Berg states that the data gained by cystoscopic examination and ureteral catheterization with the analysis of the separately drawn urines are so valuable and important that no one should undertake the treatment of surgical diseases of the kidney unless he is prepared to make use of them. In performing cystoscopy for diagnostic purposes, we are concerned in the appearance and position of the ureteral orifice and in the condition of the vesical mucosa. In general terms it may be said that the changes in shape, size, appearance, and position of the ureteral orifice correspond to and indicate the changes of the renal pelvis and ureter. Thus, atonic dilatation of the kidney, pelvis, and ureter is attended by similar dilatation of the orifice; pyelitis with acid urine shows a dilatation of the orifice, the efflux is turbid and the peristaltic wave may be increased in force and frequency; whereas, in pyelitis with alkaline urine the orifice is somewhat dilated, its lips are everted and the seat of scald like erosions, the efflux is muddy. In renal tuberculosis the appearance of the ureteral orifice varies, and in renal stone the orificial appearances of the ureter are not at all characteristic. With renal neoplasm the ureteral orifice does not appear altered, unless the pelvis is dilated. For ureteral stricture the introduction of the catheter is of the utmost importance, for only in this way can the existence of a ureteral stricture be demonstrated.

4. Turbinectomy.—Griffin does not believe in complete turbinectomy; only so much of the bone should be removed as is necessary to restore the normal canal and to give back to Nature the proper function of the nose. A complete turbinectomy is much easier than a partial. In the latter judgment is required as to

how much should be removed, the cut is longer, as it is through the centre of the bone, and the parts need trimming. If the operation of partial turbinectomy has been properly performed, six weeks after the operation an examination will fail to show any mark of a surgical procedure, and the only result potent is a normal nose, with the proper amount of breathing space and a canal for drainage. The great objection to complete turbinectomy is that it makes the passage too large, and removes something that belongs there and has a function to perform. Partial turbinectomy only restores the normal anatomy. The author gives a description of his mode of operation. In treating nasal diseases it is of the greatest importance that there should be in a nose an inferior meatus, unoccupied by foreign growths and capable of performing its function, namely, of acting as a drain to the cavity and as a transmitter of air to the lungs. Dr. Griffin has operated on over ten thousand cases.

BRITISH MEDICAL JOURNAL.

March 31, 1906.

1. Tabes Dorsalis (*Lumleian Lectures, I*),
By D. FERRIER.
2. Demonstrations of the Cystoscope and a Method of Illustrating Diseases of the Bladder and the Appearances in Renal Disease of the Opaque Prosector.
By D. NEWMAN.
3. The Prognosis in Posterior Basic Meningitis,
By O. HILDESHEIM.
4. A Case of Posterior Basal Meningitis with Few Cerebral Symptoms,
By J. G. G. CORKHILL.
5. Folie à Deux (?),
By C. MERCIER.

2. The Cystoscope as an Aid in Diagnosis.—Newman describes the cystoscope and how to use it. He comes to the following conclusions as to the significance of the appearances observed: 1. When one ureteral orifice is altered and the other normal, the renal disease is on the side of the abnormal ureter. 2. Active congestion and swelling of the mucous membrane in the neighborhood of the orifice and along the line of the ureter, also swelling and pouting of the lips, denote acute irritation of the pelvis or parenchyma of the corresponding kidney. 3. A dilated orifice, the lips being sharp and clearly defined, the mucous membrane between the lips acutely congested, while the color of that of the bladder is but little changed, denotes recent and acute inflammation or mechanical irritation in the corresponding pelvis. 4. A dilated orifice, the lips being thickened and only slightly rounded, the mucous membrane between the lips of a dark red color, while the mucous membrane of the bladder is deeply injected and pigmented, especially along the line of the ureter, denotes descending ureteritis with dilatation. 5. An elongated or dilated mouth with hyperæmia of the lips indicate acute inflammation of the parenchyma or recent distention of the renal pelvis. 6. A punched out orifice, marked thickening of the lips, induration and congestion of the surrounding mucous membrane, indicate a dilated ureter with ascending ureteritis, the infective process extending along the surface of continuity. 7. A pinhead opening on a well defined ridge of deeply pigmented mucous membrane denotes duration of the walls of the ureter from ureteritis, the infective material being conveyed from the primary focus in the kidney or bladder, principally through the lymphatic channels. 8. Pinhead contraction of the mouth without other vesical changes denotes spasm induced by the presence of a rough calculus impacted in an irritable ureter. 9. Inflammation of the mouth and thickening of the lips, with inflammatory changes limited to the mucous membrane immediately surrounding the ureter orifice, denotes mechanical irritation of old standing. 10. Simple dilatation of the mouth, without much thickening of the lips, and with congestion limited to the orifice and neighboring parts, suggests mechanical irritation of recent origin. The following

3. **Duodenal Ulcer.**—Smith's paper is based on a series of fourteen cases of perforated ulcer of the duodenum. In nine out of these cases there was a history of preceding digestive disturbance. The situation of the pain and the time elapsing between taking of food and the onset of pain and vomiting were the only points of assistance in diagnosis. Melæna did not occur in any case, and hæmatemesis in but one. In most instances the perforation took place while the patient was at work. Collapse was usually marked and the grave condition of the patient obvious. Valuable symptoms in perforative intraperitoneal lesions are the pulse rate, which is high, and the general condition of the patient, which is bad. These only point to a perforative lesion.

The signs leading to a correct localization of that lesion at the duodenum are as follows: 1. The history of the case, as suggesting a duodenal ulcer. 2. The localization of the original pain of perforation to the right hypochondrium. This is the most trustworthy aid in diagnosis. 3. The site of pain, rigidity, and tenderness at the first examination. 4. Symptoms referred to the right side of the abdomen and most marked in the appendix region, but with a definite history of onset in the right hypochondrium. It must always be borne in mind that appendicitis and duodenal perforation may coexist. In women the symptoms of a perforated ulcer may be closely simulated at or about the time of a menstrual period. All authorities agree upon immediate operation. The ulcer may be excised, sutured, or an omental graft may be utilized.

4. **Erythema Scarlatiniforme.**—Beard and Barlow report two cases of scarlatiniform erythema, and call attention to the resemblance of the condition to true scarlet fever. Nevertheless they hold that a correct diagnosis can be made and troublesome after effects avoided, if other factors beside the rash are carefully considered, e. g., the condition of the tongue, the characteristics of the throat, the character of the onset, and the past history of the patient. Three important points in differential diagnosis are the very early onset of desquamation, the desquamation taking place when the erythema is in the florid stage, and the erythematous base observed after desquamation and which remains for some time with its peculiar glistening and greasy appearance.

5. **Hæmorrhage After Operation for Empyema.**—Oliver calls attention to the occasional occurrence of fatal hæmorrhage in patients whose chest wall has been incised in order to give vent to pus accumulated within the pleural cavity. The pathology of these cases is obscure. As the hæmorrhage always occurs in patients whose temperature was high, it may be that a poisoned state of the blood is responsible for the bleeding. Careful examination after death often fails to reveal the existence of any bleeding point.

LYON MEDICAL.

March 25, 1906.

Pathological Anatomy of Tubercular Rheumatism,
By ANTONIN PONCET and RENÉ LERICHE.

Pathological Anatomy of Tuberculous Rheumatism.—Poncet and Leriche continue their discussion of tuberculous rheumatism with a description of the plastic form characterized by hypertrophy of the ends of the bones, which they divide into two types, the dry arthritis and the ankylosing arthritis. The general conclusion is reached that the different types of joint disease in adults as well as in adolescents are frequently of tuberculous origin.

PRESSE MEDICALE

March 21, 1906.

1. Pharyngeal Paræsthesia, By M. BOULAY.
2. Method of Reduction of the Retroverted and Retroflexed Uterus in the Genu Pectoral Position, By F. JAYLE.
3. Reaction of the Urine to Methyl Blue in Typhoid Fever, By CH. GANDY.
4. Asthma and Tuberculosis, By R. ROMME.

1. **Pharyngeal Paræsthesia.**—Boulay describes as various forms of paræsthesia such sensation as those of the presence of a foreign body, of dryness and heat, and of pain, which accompany such secretory troubles as are marked by an augmentation, a diminution, or an alteration in the saliva. These paræsthesiæ may be produced by a local irritation, or may be of nervous origin.

2. **Reduction of the Retroverted and Retroflexed Uterus.**—Jayle illustrates with diagrams the position in which the patient should be placed and the various

manœuvres to be made by the physician in correcting these malpositions of the uterus.

3. **Reaction of the Urine to Methyl Blue in Typhoid Fever.**—Gandy agrees with Coman and Coman in opposition to Russo that the reaction of methyl blue in the urine of typhoid patients is not of great value.

March 21, 1906.

1. The *Treponema Pallidum* of Schaudinn, By A. SEZARY.
2. Rubber Gloves. Description and Use, By M. CHAPUT.

1. **The *Treponema Pallidum*.**—Sezary adds an article to the rapidly increasing literature on the microorganism of syphilis recently discovered by Schaudinn and Hoffmann. He presents its characteristics with the aid of two illustrations, which show clearly the differences between it and the spirochæta refringens, another member of the spirillæ, describes the technics to be observed in searching for it, gives the results of the investigations by Schaudinn and Hoffmann and by others, and presents at length the conclusions drawn from those investigations which seem to indicate that the *treponema pallidum* is the pathogenic agent of syphilis.

2. **Rubber Gloves.**—Chaput describes rubber gloves, such as are in common use here, the method of their sterilization, the manner of their use, and their advantages.

March 28, 1906.

1. The False Gastropathies, By J. DEJERINE and E. GAUCKLER.
2. Retropharyngeal Herpes, By GEORGES MAHU.
3. The Syndrome Simulating Coxalgia Produced by Fissures of the Anus in Children, By R. ROMME.

1. **The False Gastropathies.**—Dejerine and Gauckler divide the false diseases of the stomach into three classes, those dependent on simple dyspeptic troubles in neurasthenics, those dependent on "fear of the stomach," also present in neurasthenics, and those in which the pseudogastropathy is functional. They quote nine cases as illustrative of the various forms in which this annoying, but imaginative, trouble may be met with.

2. **Retropharyngeal Herpes.**—Mahu reports two cases of herpes on the mucous membrane of the pharynx and nasopharynx.

SEMAINE MEDICALE.

March 28, 1906.

Cancerous Pulmonary Lymphangitis,
By Professor L. BARD.

Cancerous Pulmonary Lymphangitis.—Bard describes the part taken by the lymphatics in the generalization of cancerous disease with special reference to the lungs, in which the occurrence of a primary cancer is rare, although secondary deposits are quite frequently met with. He describes two cases with the results of the autopsies.

BERLINER KLINISCHE WOCHENSCHRIFT

March 19, 1906.

1. Alexander's Operation and Its Relation to Inguinal Hernia, By G. SCHICKELE.
2. Ætiology of Unilateral Trigger Finger, By M. BERNHARDT.
3. Temperature Estimation in Electric Light Baths, By UHLICH.
4. Improvement of Metts's Method for the Determination of the Digestive Power of Fluids, By H. MEIER.
5. The Quaternary Alkaloid Bases in Therapy, By A. SCHULZE.
6. The Winter Climate of Egypt, By M. KIRCHNER.
7. New Methods of Intubation, By I. HILF.
8. The Prophylaxis of Purulent Peritonitis, By B. BOSSE.

1. **Alexander's Operation.**—Schickele declares it is unjust to speak of a recurrence after Alexander's operation unless the uterus no longer occupies the physiological position given it by the operation; but this does and should not take into account new pathological conditions like a chronic metritis, or adhesions remaining from the preoperative period or originating

2. Treatment of Syphilis.—Ronchi summarizes his observation in the venereal clinic at Naples, in which he employed injections of red mercuric iodide, according to Delmei's formula. This formula consists of red mercuric iodide and sodium iodide, of each, 0.5 gramme; sodium chloride, 0.15; and sterile distilled water, 20.0 grammes. These injections are more easily tolerated than the other soluble mercurical preparations, and can be given both subcutaneously and intramuscularly. They are especially of advantage in the late manifestation of syphilis.

THE JOURNAL OF NERVOUS AND MENTAL DISEASE

April, 1906

1. The Care of the Insane and the Study of Psychiatry in Germany, By STEWART PATON.
2. Dispensary Work in Nervous and Mental Diseases, By SMITH ELY JELLIFFE.
3. Tuberculous Meningitis, with Report of Fifty-two Cases, By J. N. HALL and S. D. HOPKINS.
4. Leprosy Simulating Syringomyelia, By HERBERT C. MOFFITT.
5. Types in Mental Diseases, By WILLIAM A. WHITE.
6. The Importance of the Early Diagnosis of Mental Diseases, By GEORGE STOCKTON.

1. The Care of the Insane and the Study of Psychiatry in Germany.—Paton describes the new psychiatric hospital of Munich, Germany, the best hospital of its kind in the world, which has been erected at a cost for the buildings alone of over \$500,000. In comparing the institutions of Germany with those of the United States, the author concludes that State authorities as well as private benefactors should soon make it possible to establish in the United States, under university control, a number of institutions whose purposes can be summarized as follows: 1. The cure of many patients who now become hopelessly insane. 2. The instruction of medical students as well as practising physicians in psychiatry. 3. The possibility of keeping under observation a large number of individuals whose unstable nervous systems may become sources of danger. 4. The examination of cases in which the question of mental responsibility is under debate, and a submission to courts of formal reports based upon observation.

2. Dispensary Work in Nervous and Mental Diseases.—Jelliffe gives the report for the year 1905 of the neurological service at the Vanderbilt Clinic, New York city. There applied at the Vanderbilt Clinic 43,355 patients, 2,284 in the class of nervous disease; 2,156 patients were examined, and 1,917 were treated with 9,521 visits. The proportion of the nervous class was therefore five per cent. of the total number of patients. In 1900 the average of mortality from diseases of the nervous system of the United States was eleven per cent., according to the vital statistics. The author gives statistical information about the mental diseases treated at the clinic.

3. Tuberculous Meningitis, with a Report of Fifty-two Cases.—Hall and Hopkins report fifty-two cases of tuberculous meningitis, forty being male subjects. One occurred at three and a half months of age, five between two and five years, eight between six and ten, six in the second decade, eleven in the third, twelve in the fourth, six in the fifth, while of three the age was unknown. Thus, it will be seen that twenty-nine patients were over twenty years of age. In seventeen cases there was a history of at least one death in the family from tuberculosis. Fifteen patients had a history of tuberculosis. Tuberculous meningitis might be mistaken for many diseases of the nervous system, or for many acute general diseases. The author gives the differential diagnosis. As to the nature of the meningitis the diagnosis between the various forms can be easily determined by finding tubercles on the choroid,

or by ascertaining a definite tuberculous family history.

FORTSCHRITTE DER MEDIZIN

February, 1906

1. Lactoplain, a Hypnotic and a Means for the Elimination of the Bromide. Falkenberg. Pepsogen. Lichen Water for the Treatment of Gout. Salol, a New Substance for the External Treatment of Rheumatism, By M. PELTZER.
2. Prospects for the Early Diagnosis of Intestinal Carcinoma, By J. BOAS.
3. Abdominal Sensitiveness and the McBurney Point, By G. KELLING.
4. The Indication for Transplantation of Tendons, By A. LORENZ.
5. Experiments on the Transmission of Syphilis to Apes, By NEESE, BAERMANN, and HETTLER.

2. Prospects for the Early Diagnosis of Intestinal Carcinoma.—Boas asks whether by early operation on intestinal carcinoma we may not get better results. Of sixteen radical operations upon the rectum only a small portion of the cases were seen early. Of nine cases in which symptoms had lasted less than three months there were only three really favorable cases. On the other hand, some of those which had shown symptoms many months were operable. Of six cases of operation for colon carcinoma, two were very favorable, though of more than six months' duration. In stomach carcinoma it was also found that operability did not necessarily depend upon the duration of the disease. A very early diagnosis is unfortunately impossible in many cases, whether by chemical test, by gastroscopy, or by exploratory abdominal section. The present outlook for early diagnosis is therefore unfavorable, and further investigations must be made before it can be improved. The malignity of intestinal and other forms of carcinoma lies, in great measure, in the latency of its growth.

3. Abdominal Sensitiveness and the McBurney Point.—Kelling has the following propositions concerning this object: 1. It is desirable that the conditions relating to sensitiveness in the caecal region be investigated much more thoroughly than has been the custom heretofore. This includes sensitiveness of the skin, the muscles, and the deep pelvic structures. 2. The McBurney point is purely a nervous pressure point, the nerves of the appendix corresponding with those of the superjacent abdominal wall. Irritation of the sympathetic plexus in the caecal region causes hyperæsthesia in overlying structures. 3. One can determine sensitiveness to pressure in this region, but not appendicitis. 4. Only palpable anatomical examination can determine the diagnosis. For the differential diagnosis between appendicitis and cholecystitis even icterus is not convincing except when unattended by fever. The not infrequent combination of appendicitis and cholelithiasis is produced by the agency of bacteria from the appendix. 5. If an operation is performed for appendicitis the gallbladder should be inspected, and conversely in an operation for gallstones the appendix should always be investigated. 6. If there are symptoms of appendical or gallbladder disease and no corresponding anatomical conditions the diagnosis will be doubtful, but one should act as if appendicitis were present.

4. The Indications for Transplantation of Tendons.—Lorenz declares every transplantation irrational in which the existing disturbance of muscular equilibrium is not compensated. It is easy to see that the condition may be made worse instead of better, if the proper relations of muscles are not maintained. An operation which is immediately successful may not be permanently so. Transplantation is indicated only when deformities have first been removed. One should then wait and see whether the apparently paralyzed muscles have not resumed their function, or whether the condition

10. **Surgery of the Large Bowel.** Nausede ob-
serves that neoplasms of the large bowel give rise for
long periods to little except supposed constipation with
attacks of cramping pains and some distention. It may
be discovered only at operation or post mortem that
the lumen of the bowel prevents the transmission of
feces. Vomiting may be absent or a late symptom,
and may suddenly supervene with all the evidences of
acute obstruction. If earlier diagnosis were made re-
section of the bowel and cure would more frequently
be possible. Opening the intestine to produce sufficient col-
lapse to enable one to deal radically with a stricture in

the presence of acute obstruction is of questionable value unless lateral anastomosis be thereby rendered possible between a loop above and one below the obstruction. A bowel incision might also lead to dangerous adhesions to the bladder, while colostomy or enterostomy is the alternative. Either the suture or the Murphy button may be used if anastomosis is decided upon, with equal advantage.

13. Excision of the Knee Without Opening the Joint.—Flint refers to the various disadvantages connected with excision of the knee for tuberculous disease. Any method of resection in which the joint is opened may fail if a small portion of diseased tissue is inadvertently left as a focus for recurrence. He therefore devised an operation in which the joint is not opened, with the following advantages: 1. The resection may be performed rapidly. 2. There is slight danger of contaminating the wound by infectious material from the joint. 3. Hæmorrhage can be reduced to a minimum. 4. The operation is thorough, there is very slight chance of leaving diseased tissue behind, and hence slight probability of recurrence.

14. The Effect Upon Glandular Tissue of Exposure to the X Rays.—Taylor thinks the disadvantages attending the use of x rays upon glandular swellings and new growths have not been sufficiently elucidated, and he advises that they be not used in any case in which a surgical operation may be required. They produce such changes in the tissues that operations which otherwise would be simple may become formidable or dangerous. The only action of the rays is distinctly a harmful one, in such cases the burn produced consisting of an acute, subacute, or chronic necrobiosis. The nerves, vessels, and cell elements undergo degenerative changes. The therapeutic effects of the rays is very great in inoperable malignant disease of a superficial character, and as a preventive of the recurrence of malignant disease after radical operation, but they should never be employed upon the tissues before a surgical operation is performed.

EDINBURGH MEDICAL JOURNAL.

March, 1906.

1. On the Treatment of Eczema, By W. A. JAMIESON.
2. On the Treatment of Fractured Patella by Transverse Wiring, By G. G. HAMILTON.
3. Some Points in Connection with the More Severe Skin Eruptions Produced by the Bromides and Iodides, By A. HALL.
4. The Pathology of General Paralysis of the Insane, By W. F. ROBERTSON.
5. Estimation of the Functional Power of the Heart by the Aid of Orthodiagraphy, By P. C. FRANZE.
6. Some Notes on Kopftetanus, with an Account of Two Cases, By T. W. E. ROSS.
7. A Case of Eclampsia Followed by Puerperal Melancholia Which was Treated with Thyreoid Substance, By W. E. FOTHERGILL.
8. Congenital Hernia of the Appendix, By W. K. HUTTON.

1. The Treatment of Eczema.—Jamieson believes there is no specific for the cure of eczema. Arsenic is not approved of by the writer. Eczema has no necessary connection with gout or rheumatism. It is more frequently caused by external agencies than by internal. Three rules are given for practical use in its treatment: (1) Cleanse, (2) soothe, (3) cautiously stimulate. Zinc ointment must not be used unless it is fresh and prepared with cold cream or lanolin. Coal tar dissolved in acetone will often give fine results. Ichthyol in one or two per cent. mixtures is often efficient. Lotions are often useful in the erythematous or papular form of eczema.

2. Treatment of Fractured Patella by Wiring.—Hamilton found that under careful antisepsis or asepsis he could open the knee joint without suppuration, and he now believes that the open method, with wiring

for fractured patella, quickly performed, is the most desirable, especially for workmen. Of seventy-one surgeons whose opinion was sought as to this method of treatment, forty-one would operate on selected cases only, and twenty-one would decline to operate. The author does not agree to the statement that as good results are obtained with early movement and medico-massage, as with the open surgical treatment. The dread of opening the knee joint, together with the danger of suppuration, has largely passed away with the perfection of surgical technics.

3. Points in Connection with Skin Eruptions.—Hall observes that there are many forms of cutaneous eruptions produced by the bromides and iodides when taken internally. The severe cases resulting from iodides usually occur in those who suffer with kidney disease, with or without heart disease, and with whom elimination is defective. The severe bromide eruptions are usually in young children or infants. Both the bromide and the iodide eruptions may follow small doses of the drugs administered for brief periods, and they may get worse after the drugs have been omitted. The limitation of the eruption to exposed areas of the body in iodide eruptions suggests that the exposure has something to do with the eruption. Three possible causative factors are diminished resistance or increased susceptibility of the skin to iodine, parasitic microorganisms, and the chemical irritation of light rays.

4. The Pathology of General Paralysis of the Insane.—Robertson remarks that the ætiology and pathology of this disease have heretofore been a mystery. In cases which were investigated by the author and others a diphtheroid bacillus was prominent in the gastrointestinal and respiratory tracts in cases of general paralysis, and could also be isolated from the brain. The hypothesis was therefore advanced that this disease was directly due to the toxins of bacteria attacking the gastric and intestinal mucous membranes. There are many arguments against the view that general paralysis and tabes dorsalis are of syphilitic origin. If a mucosa is healthy the toxic organism can neither multiply extensively at the surface nor invade the tissues. Important inimical forces are the pathogenic agent of syphilis, alcohol, and nitrogenous foods in excess. Invasion takes place most frequently from the bronchi, though it may occur from the alimentary tract. General toxæmia is due to disintegration of the bacilli at the seat of invasion, and in the blood, and added local cerebral toxic action from disintegration of the bacilli that have penetrated the endothelium of the cerebral vessels. There is finally a congestive attack.

5. Estimation of the Functional Power of the Heart by the Aid of Orthodiagraphy.—Franze believes that prophylaxis and prognosis of heart disease depend on our capacity to estimate the functional power of the central organ of circulation. The factors in the physiology and pathology of the circulation which are to be considered in making a diagnosis are blood pressure, pulse, respiration, urine, cyanosis, and the size of the heart. Of these the first three are of minor importance in diagnosis, the condition of the urine is of greater significance, cyanosis is of extreme importance, while the size of the heart is the best, though not the absolute criterion as to its functional capacity. This can be determined only by the aid of Röntgen rays, an orthodiagram being a mathematically exact tracing.

7. Eclampsia Followed by Puerperal Melancholia.—Fothergill considers the nervous diseases of pregnancy and the puerperium as striking examples of toxæmic states associated with defective metabolism and with absorption from the intestinal canal. They can usually be controlled by the same measures which are employed in threatened eclampsia or the preeclampsia.

ninety-five per cent. of all the patients being Jews. While the Jewish race was very prone to cancer, he was inclined to regard their freedom from cancer of the cervix as due to the prohibition of sexual congress during menstruation and during the seven days following the cessation of the flow. In this way the irritation caused by the sexual act at unfavorable times was prevented.

Dr. JOSEPH E. JANVRIN, from his own work, particularly in the line of cancer of the uterus, concluded that the chief thing for the surgeons was to recognize the condition as early as possible and to instruct the general practitioner as to the necessity of an examination in all cases in which diseased conditions of the uterus were manifested by disturbances of menstruation or by irregular discharges (spotting) of blood. Although nine tenths of the cases in his experience were far advanced when first seen, he had had numerous cases in which the disease was seen so early as only to be recognized by the aid of the microscope. In all such cases he considered a radical operation to be the only efficient treatment, for which he preferred the vaginal route unless there were conditions present which rendered this route more difficult than the abdominal. In the cervical cases, in which the cancerous tissues rapidly spread into the parametrium, he removed the uterus, the ovaries, and all the diseased tissue that he could, after which he seared the tissues with the cautery. He then briefly referred to his own statistics of fifty cases in which there had been twenty-four per cent. of absolute cures four years subsequent to the operations. Ten or perhaps fifteen had been recognized early in the course of the disease. In thirty-eight cases he had operated through the abdomen and in twelve through the vagina. As to the cause of cancer, much credence should be given to the idea that it resulted from protracted irritation, as shown by its more frequent occurrence in married women who had borne children.

Dr. EDWARD B. CRAGIN said that the fact suggested by Dr. Vineberg, that Jewish women seemed to have a relative immunity from cancer of the uterus, possibly due to the absence of irritation for one half the month, deserved consideration. As to any ætiological relations between fibromyomata and cancer, while he had seen the two growths associated in the same organ, he had never met with a case in which the pathologist had reported malignancy in a tumor that he knew had started as a fibromyoma. He thought that in the treatment the supposed greater longevity after a radical abdominal operation, dissecting out the enlarged pelvic glands, was more than offset by the increased primary mortality. He referred to a case in which he had operated through the vagina eight years before, without recurrence.

Dr. MALCOLM McLEAN considered the relation between laceration of the cervix and cancer to be so close that he regarded the first condition as too dangerous to be neglected. He agreed with Dr. Cragin relative to the absence of any causal relation between fibroids and cancer, although they might be associated.

Dr. EGBERT H. GRANDIN would not accept either the parasitic or the infectious theory of the origin of cancer, and he could not accept the idea, without limitations, that cancer was due to irritation, because of the following reasons belonging to all three of these active factors: He had never seen a cancer of the pelvic organs in a multipara or in a virgin or in a prostitute. He had also known of many women with cancer of the uterus who had had intercourse with their husbands without in any instance transmitting the growth. Although formerly believing that laceration of the cervix predisposed to cancer, he could recall but two cases of cancer of the uterus out of 1,500 Italians, in whom laceration of the cervix so uniformly existed because

of their widespread custom of employing unskilled midwives. He thought this relative immunity in Italian women might answer Dr. Vineberg's suggestion as to the cause of immunity in Jewish women. He did not think that in the treatment of cancer vaginal hysterectomy had any reason for existence, because much more of the disease could be removed from above.

Dr. RALPH WALDO said that, whatever theory might be accepted as to the cause of cancer, it was very generally agreed that it began as a local disease. He rarely performed abdominal hysterectomy in the treatment of cancer of the uterus, and he presented a uterus, with the microscopical sections, that he had removed through the vagina from a patient, fifty-eight years of age, who had passed the menopause two years prior to his examination. She had had one child many years previously, and Dr. Waldo had repeatedly advised her to have a laceration of the cervix repaired. A diagnostic curetting for uterine hæmorrhage had revealed the presence of cancer just within the internal os. She had remained entirely free from the disease.

Dr. L. GRANT BALDWIN disagreed with Dr. Grandin relative to the infrequency of cancer of the uterus in Italians, as among 1,000 hospital patients of whom twenty-five per cent. were Italians, he had seen twenty cases of cancer of the uterus, all occurring in the Italians.

Dr. C. A. VON RAMDOHR agreed with Dr. Vineberg as to the relative immunity of Jewish women to cancer of the uterus.

Dr. VINEBERG agreed with Dr. Cragin that a fibroid never irritated a uterus sufficiently to cause cancer. The male Jews, he stated, were as subject to cancer as men of other races. He did not believe that any one would doubt that chronic irritation was a factor in the production of the disease, mentioning a case in which he had seen cancer of the vulva develop from kraurosis.

Dr. WELLS said that the statistics of a large number of cases seemed to show that cancer was more a disease of age than of nationality or any other condition, occurring at about the end of the middle third of life and at the decline of reproductive activity, due to some inherent quality in the senile cell. He thought therefore that investigations along the line of study of the cell itself offered the best chance of ascertaining the nature and cause of cancer. The practical lesson to be derived from recent investigation was that of early operation, using the greatest care to avoid the implantation of cancer cells upon raw surfaces.

AMERICAN SOCIETY OF TROPICAL MEDICINE.

Third Annual Meeting, held in Philadelphia on Wednesday evening, March 21, 1906.

The President, Dr. JAMES M. ANDERS, in the Chair.

A New Species of Parasite in Man.—Dr. CHARLES WARDELL STILES, of the Public Health and Marine Hospital Service, read a paper describing this parasite. It was regarded as belonging to the family of filariæ, and was from 32 to 52 millimetres in length. It was found in Georgia and taken from an ulceration of the leg. It did not exactly agree with any of the known group. The only parasite which it most nearly resembled was one described as infesting certain South American birds. He regarded it as a tropical or sub-tropical parasite of whose distribution Georgia would probably form the northern border. It was immature as it occurred in man, and until the adult stage was observed he believed it impossible to say much concerning it. He regarded the infection as a surgical matter rather than medical.

Dr. JUDSON DALAND spoke of the prevalence of filaria on the eastern coast of India. The hospitals,

From the Adult to the Larva, by J. A. Rehn, M.D., and The Possibility of the Development of the Larva of *Y. trichosporus* from the Adult, by J. A. Rehn, M.D., and The Larva of *Y. trichosporus* from the Larva, by J. A. Rehn, M.D.

The following officers were elected: President, Dr. Roland G. Curtin, of Philadelphia; vice-presidents, Dr. Abraham Jacobi, of New York, and Dr. Aristides Agramonte, of Havana, Cuba; secretary, Dr. Joseph McFarland, of Philadelphia; assistant secretary, Dr. John M. Swan, of Philadelphia; treasurer, Dr. Wharton Sinkler, of Philadelphia; councillors, Dr. James M. Anders, Dr. Judson Daland, Dr. Thomas H. Fenton, and Dr. B. E. Stahl, of Philadelphia.

Received February 12, 1966

The President, Dr. CHARLES K. MILLS, in the chair.

Exhibition of Specimens.—Dr. JOHN B. ROBERTS exhibited a specimen of a dilated Meckel's diverticulum of the ileum, which had caused strangulation of the intestine and obstruction. He stated that, while a diverticulum or appendix arising from the cæcum was present in practically all persons, such a diverticulum was only occasionally found arising from the ileum. The specimen shown was attached to the belly wall by its extremity. It was small and fibrous at the end, and at the intestinal attachment it was of about the size of the vermiform appendix, but in the middle had become dilated into a little sac. The ileum was tightly constricted. Operative treatment had relieved the obstruction and been followed by cure.

Prognosis in Tuberculosis of the Lungs.—Dr. JOSEPH WALSH said that prognosis must be viewed from the points of absolute and practical cure. The latter viewpoint was especially considered. Primary factors in the prognosis of tuberculosis in regard to usefulness or practical cure were mentioned, such as amount of involvement, duration of the disease, susceptibility to the toxine, as manifested by rapid pulse, high temperature, and loss of weight, the dissemination, and the association of complications. Secondary factors, which, however, in individual cases might become of prime importance, were age, sex, race, condition of life, intelligence, temperament, occupation or environment, and financial resources. Among the primary factors, the amount of involvement was considered to be probably the least important. One patient with involvement of only one or two inches at the top of the lung, if other symptoms were severe, might die, while another patient with practically complete involvement of a whole lung might recover so as to lead a useful life for an indefinite number of years. Marked toxic symptoms, such as a rapid pulse, high temperature, and either rapid or considerable loss of weight, made the prognosis unfavorable. The reverse of this was also true. Underweight counted practically the same as, or even a little more than, loss of weight. Laryngeal tuberculosis had usually been considered of bad prognostic import for the reason that laryngeal tuberculosis was a rare primary condition and usually occurred only in association with considerable lung involvement. Practically the same might be said of intestinal tuberculosis.

A previous history of tuberculosis of the cervical glands gave a better prognosis. Tuberculosis of the lungs associated with fistula in ano also was said to make the prognosis better, as did also a previous pleurisy. Complications on the part of the lungs themselves, the heart, the kidneys, and the digestive tract rendered the prognosis less good.

The most critical age was said to be between fifteen and twenty five. The better the environment in which

the patient had been living, the worse the prognosis. The only means for the prevention or cure of tuberculosis was said to be a regular life with sufficient rest, fresh air, and good nourishment. If the patient had had these, and the tuberculosis had developed in spite of them, the susceptibility was so great that a cure was not likely. On the contrary, tuberculosis might have developed on account of bad environment and too little nourishment, and such a patient's resistance might be found good. If he was put under proper condition, however, it usually happened that when a cure was effected, for pecuniary reasons it was necessary for him to return to the old environment, and the chances of relapse were great. Consequently, the worse the environment the better the prognosis, though the greater the likelihood of eventual relapse. The longer the patient had had the disease, other things being equal, the better the prognosis.

Dr. MAX GOEPP asked what proportion of cases were amenable to treatment by rest in bed and full feeding.

Dr. WALSH replied that this depended somewhat upon the advance of the disease and the individual case. In a patient very susceptible to the disease a cure was not probable. In the majority of acute cases they died irrespective of treatment.

The Roentgen Treatment of Some Nonmalignant Superficial Lesions.—Dr. CHARLES LESTER LEONARD said that definite indications for employing Röntgen rays had been determined in the treatment of superficial lesions, and that a dose that was sufficiently accurate for comparison and for efficient employment was known. Of the treatment of malignant disease, he said that the time had come when a distinction that was definite must be made between cases that were amenable to treatment and those in which palliation alone could be expected. The most valuable treatment by this method was said to be the postoperative, especially after an early operation. He included among the superficial lesions those of glandular organs that lay beneath the surface, and spoke of the remarkable results that had been produced in tuberculous and simple adenitis and the sinuses that often followed an operation. He suggested that the action of the ray and the resultant apparent bactericidal action might be due to the specific action of the ray upon the bacteria, or to an antitoxine, developed by the stimulant and alterative action of the rays upon normal tissue in the presence of the tubercle or other bacilli.

He reported four cases of goitre in which the treatment had been applied for its alterative action, and because of the analogous character of their structures to those of fibrous malignant disease, in which beneficial results had often been seen. One case of simple goitre had remained cured for three years. It was a chronic, simple goitre of twenty years' standing. A second had remained cured eighteen months since treatment was stopped, with entire absence of nervous symptoms. A third case, one of exophthalmic goitre, was much improved, but the patient had discontinued treatment. A fourth case was improving under treatment.

The depilatory action of the ray had been found of great value in the treatment of sycosis, favus, ringworm, and hypertrichosis, of which the author reported several cases. The opposite and stimulant action, due to modification in the dose, was illustrated by the beneficial action in alopecia areata. Lupus illustrated the several lesions that yielded rapidly to this treatment, with a remarkable restoration of the normal structure and without curetting or breaking down the tissues.

He also reported a number of severe and chronic cases of eczema and psoriasis, varying from seven to twenty years in duration, that had yielded to this method of treatment. Another group of difficult cases amenable to this treatment were the acnes. Here rapid re-

sults were obtained without scarring or disfigurement. Keloids, especially those that had taken on retrograde degeneration of a malignant type, were susceptible to this method of treatment.

Exophthalmic Goitre Treated by the Roentgen Rays.

—Dr. G. L. FRAVIER and Dr. M. C. THROST presented this paper. The case forming the basis of the report was that of a young woman who had the nervous symptoms extending over a period of several months. Then the right lobe of the thyroid gland became enlarged. After the goitre had existed for two months, x ray treatment was begun. She was given twenty-two treatments, when she appeared to be well. The treatment extended over a period of two months. Improvement was noticed after a month. She gained twenty-five pounds in weight, and the pulse fell from 120 to 72. The authors had collected thirty-one cases of goitre treated by this method thus far. Of these, four were of the exophthalmic type. Of the thirty-one, twenty-eight showed improvement.

The Use of Calomel in the Treatment of Eclampsia.

—Dr. W. REYNOLDS WILSON, in this paper, said that irritation of the kidneys began early in pregnancy and imposed a task upon the renal epithelium which made the balance between the production of toxine and the compensatory elimination extremely precarious. The function of the liver, he said, went hand in hand with that of the kidneys, and when the toxic ingredients of the blood remained unaffected by the converting function of the liver, the burden upon the kidneys became too great and eclampsia was the result. The action of the bile as a preventive of intestinal fermentation hung also upon the efficiency of the liver function. Calomel was, therefore, indicated in the therapeutics of eclampsia, first, on account of its diuretic effect, which was illustrated by a series of six cases reported; secondly, on account of its hydragogue action, which aided in elimination; and, thirdly, on account of its corrective effect in the presence of intestinal fermentation.

Among the important considerations of the subject was mentioned the dose; ten, fifteen, and twenty grains given in the convulsive stage, while the opportunity for medication was present, seemed to have the best effect. Morphine as an adjunct was very important, although it was regarded by Dr. Wilson as an undesirable sedative in the presence of an old nephritis. Its use, however, was strongly urged on account of its action in combating the undesirable effect of calomel as shown in salivation and undue purgation, although the latter effect of calomel was never to be taken into consideration as a disadvantage.

Dr. GEORGE M. BOYD said that he would be inclined to resort to more heroic doses of calomel early in the toxæmia of pregnancy, at which time the better results could be expected than in the later stages. Success in treatment, he felt, would depend upon the ability to recognize early the manifestations of eclampsia.

Dr. WILSON said that eclampsia, of all conditions which the obstetrician had to deal with, was a condition requiring the promptest action possible. The use of calomel as a diuretic was really a medical discovery. His attention had first been called to it outside of obstetric practice. He recalled a case of Bright's disease with cardiac disturbance in which calomel had given a good result. In dealing with hospital cases, especially in those in which the possibility of elimination of the toxic elements early in the pregnancy, was more or less limited, Dr. Wilson relied largely upon calomel and morphine. Since the eclampsia which attacked primiparous women was usually without chronic kidney lesion, they stood morphine very well. He had found that calomel acted well with morphine, and said that the large doses administered in many of the cases were administered exactly as large doses of chloral would be given in the same condition.

Book Notices.

Chirurgie moderne (modern surgery) by Dr. J. B. de Quervain. Translated by Dr. J. B. de Quervain. 1898. 1000 pp. 10 francs.

The present work is a translation of the *Chirurgie moderne* by Dr. J. B. de Quervain, which was published in 1898. It is a very good book, and it is well known that the author is a very good surgeon. The book is written in a very clear and concise manner, and it is very easy to read. It is a very good book for the student of surgery, and it is also a very good book for the general practitioner. The book is written in a very clear and concise manner, and it is very easy to read. It is a very good book for the student of surgery, and it is also a very good book for the general practitioner.

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Miscellany.

Intemperance, Drunken Habits, Etc. in West Africa and Their Reaction to Mental Disease. By Dr. J. B. de Quervain. 1898. 1000 pp. 10 francs. This book is a translation of the *Intemperance, Drunken Habits, Etc. in West Africa and Their Reaction to Mental Disease* by Dr. J. B. de Quervain, which was published in 1898. It is a very good book, and it is well known that the author is a very good surgeon. The book is written in a very clear and concise manner, and it is very easy to read. It is a very good book for the student of surgery, and it is also a very good book for the general practitioner.

water ("ochasa"). Palm toddy ("alufu") is also drunk in some districts. Of late years the Portuguese having ignored their agreement not to introduce rum among new tribes, that beverage has become common right into the interior. Tobacco.—Universally used, generally in the form of snuff, but not seldom smoked; it is never chewed. Hashish (*Cannabis sativa*) is smoked by a certain percentage of the natives; more common in some districts than in others. Kola (*Sterculia acuminata*) is extensively used in some localities south of the Congo. There is a superstition among the blacks and Creoles that one cannot endure the climate without it, which is expressed in a rhyming proverb which may be roughly "Englished" in this fashion:

I go to Angola for Kola,
Can't live in Angola."

"Okapilangau" (*Burkea africana*).—The bark is chewed, and also occasionally inserted into the vagina by women as an aphrodisiac. Mental disease is very rare among these people. Rum and hashish are the most deleterious stimulants used by them. I have heard the statement made that hashish smoking is a frequent cause of insanity among them. Such statements lack proof. Of the few cases of mental derangement I have observed among these people.

The Psychoses of Peasants.—A paper of some interest is published in *Le Progrès médical* of January 20th by Dr. Terrien in which he compares the frequency and the character of the "psychoneuroses" affecting the dwellers in rural districts with those of urban populations. Contrary to what might have been expected from the healthier conditions of life and the less exacting struggle for existence among the prosperous peasantry he finds that hysteria and neurasthenia are if anything more prevalent among them than among town dwellers. He has spent twelve years among the peasantry of La Vendée and then subsequently four years in an urban district, so that his conclusions are the result of personal observation of the two classes. He states that hysteria and neurasthenia are extremely frequent among the peasants and brings forward certain explanations to account for this prevalence. In the first place he points out that large numbers of the peasants drink as much as five or six litres of the wine produced in their own district and that drunkenness is very common, although chronic alcoholism and spirit drinking are rarely met with. Dr. Terrien suggests that one effect of this is to produce a taint of degeneracy in the offspring, with an associated instability of the nervous system. He further believes that the superstitions which are so deeply rooted in the minds of the peasantry from their earliest childhood are also a factor in the production of these psychopathies and may contribute to the genesis of actual delusions. Another contributing cause is probably also the frequency of marriages of consanguinity among the peasantry. Dr. Terrien also believes that the personal hygiene of the dwellers in rural districts is rudimentary and that as a consequence they are more liable to infections and auto-intoxications which he believes can play a part in the development of such mental changes. Lastly, he suspects that the life of the peasant is no longer so idyllic as in former times and free from the worries and stress of competition, but that the struggle for existence is becoming keener. On studying the manifestations of hysteria in the rural population Dr. Terrien finds that imitation plays a more direct part in the genesis of hysterical manifestations than is the case among dwellers in towns, and he quotes various instances in support of his contention, notably in one village, where six young girls developed "hysterical hip" after seeing a genuine case of hip disease. On the other hand, hysterical fits or convulsive attacks are extremely rare. A further

point is that the hysterical patient in the country is more amenable to treatment, especially treatment by suggestion, than those in towns. The neurasthenia of peasant life, however, differs little if at all from that of urban life, except that the peasant less often complains of mental disability and more often of physical manifestations, such as weakness, pain in the back, and dyspepsia. Dr. Terrien's observations and his conclusions are both worthy of careful consideration and afford matter for careful statistical investigation. Even admitting the accuracy of his statement that such conditions as hysteria and neurasthenia are on the increase among the peasants, it may be doubted whether his explanations entirely account for it, since the drinking of wine in excessive quantities, the belief in superstitions, and the intermarriage of relatives are presumably factors which have long been in operation and are not necessarily on the increase; indeed, intermarriage and belief in superstitions might be expected to be on the decrease, owing to the better education and the easier means of communication now existing.—*Lancet*.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended April 13, 1906:

Smallpox—United States		Cases.		Deaths.	
Places.	Date.				
Arkansas—Fort Smith	Mar. 24-31	1			
California—Los Angeles	Mar. 24-31	15			
California—San Francisco	Mar. 17-31	27			
Dist. of Columbia—Washington	Mar. 31-Apr. 7	1			
Florida—Jacksonville	Mar. 31-Apr. 7	1			
Georgia—Augusta	Mar. 26-Apr. 2	4			
Kentucky—Corington	Mar. 31-Apr. 7	2			
Louisiana—New Orleans	Mar. 31-Apr. 7	2			
Maryland—Baltimore	Mar. 31-Apr. 7	3			
Michigan—Detroit	Mar. 24-Apr. 6	2			
Michigan—Grand Rapids	Mar. 31-Apr. 7	1			
Mississippi—Natchez	Mar. 31-Apr. 7	1			on vessel
Missouri—St. Louis	Mar. 31-Apr. 7	2			
New Jersey—Hudson County	Apr. 1-8	4			
New York—Buffalo	Mar. 24-31	1			
New York—New York	Mar. 31-Apr. 7	2			
North Carolina—Greensboro	Mar. 31-Apr. 7	3			
Ohio—Cincinnati	Mar. 30-Apr. 6	3			
Ohio—Cleveland	Mar. 30-Apr. 6	1			
Tennessee—Knoxville	Mar. 31-Apr. 7	1			
Utah—Ogden	Mar. 1-31	3			
West Virginia—Wheeling	Mar. 30-Apr. 6	2			
Wisconsin—Appleton	Mar. 31-Apr. 7	4			
Smallpox—Foreign.		Cases.		Deaths.	
Africa—Cape Town	Feb. 24-Mar. 3	4			
Austria—Galicia (province)	Feb. 18-Mar. 3	36			
Austria—Vorarlberg (district)	Feb. 18-Mar. 3	17			
Canada—Seven Islands	Mar. 21	Present.			
Canada—Winnipeg	Mar. 24-31	1			
Chile—Iquique	Mar. 3-10	Present.			
China—Hongkong	Feb. 10-24	24			17
Ecuador—Guayaquil	Mar. 4-22	13			
East—General	Dec. 17-31	17			14
France—Paris	Mar. 17-24	6			1
Germany—Kehl	Jan. 1-31	1			1
Gibraltar	Mar. 18-25	4			
Great Britain—London	Mar. 17-24	5			
Greece—Parras	Feb. 27-Mar. 6	3			
India—Bombay	Mar. 6-13	2			8
India—Calcutta	Feb. 24-Mar. 3	189			
India—Karachi	Feb. 25-Mar. 11	53			20
India—Madras	Mar. 3-9	48			
India—Rangoon	Feb. 24-Mar. 3	83			
Italy—General	Mar. 15-22	35			
Netherlands, The—Rotterdam	Mar. 24-31	3			
Russia—Moscow	Mar. 3-17	19			
Russia—Odessa	Mar. 17-24	6			
Spain—Tarragona	Mar. 17-24	2			
Turkey—Constantinople	Mar. 11-18	2			
Yellow Fever.		Cases.		Deaths.	
Ecuador—Guayaquil	Mar. 4-22	36			
Mexico—Merida	Apr. 10	1			
Mexico—Salina Cruz	Mar. 18-24	1 Imported			
Mexico—Tehuantepec	Mar. 18-24	1 Imported			
Mexico—Vera Cruz	Apr. 1	1			
Cholera.		Cases.		Deaths.	
India—Bombay	Mar. 6-13	2			
India—Calcutta	Feb. 24-Mar. 3	50			
India—Rangoon	Feb. 24-Mar. 3	2			

Plague.		Cases.		Deaths.	
India—Bombay	Feb. 17-24	17		16	
India—Calcutta	Feb. 24-Mar. 5	1		1	
India—Madras	Mar. 6-13	1		1	
India—Rangoon	Feb. 24-Mar. 5	1		1	
India—Srinagar	Mar. 1-9	1		1	
India—Tahiti	Feb. 24-Mar. 5	1		1	
India—Tahiti	Feb. 24-Mar. 5	1		1	
India—Tahiti	Feb. 24-Mar. 5	1		1	
India—Tahiti	Feb. 24-Mar. 5	1		1	
India—Tahiti	Feb. 24-Mar. 5	1		1	

Public Health and Marine Hospital Service:

List of Changes of Station and Duties of Commissioned and Non-Commissioned Officers of the Public Health and Marine Hospital Service, for the seven days ending April 13, 1906.

ANDERSON, J. F., Passed Assistant Surgeon. Directed to proceed to Reedy Island Quarantine Station, temporary duty, upon completion of which to rejoin station in Washington, D. C.

BAILEY, G. W., Acting Assistant Surgeon. Granted leave of absence for twenty-one days, from April 3, 1906.

BLUE, RUPERT, Passed Assistant Surgeon. Directed to report to the Director of the Hygienic Laboratory, Washington, D. C., for temporary duty.

BLUE, RUPERT, Passed Assistant Surgeon. Directed to proceed to Reedy Island Quarantine Station, for temporary duty, upon completion of which to rejoin station in Washington, D. C.

FOGARTY, J. N., Acting Assistant Surgeon. Granted leave of absence for twenty-one days, from April 13, 1906.

FROST, W. H., Assistant Surgeon. Temporarily relieved from duty at Baltimore, Md., and directed to proceed to Ellis Island, New York, for temporary duty.

GRIFFITHS, T. H. D., Acting Assistant Surgeon. Granted leave of absence for thirty days, from May 1, 1906.

GUITERAS, G. M., Surgeon. Granted leave of absence for two days, from April 16, 1906.

LLOYD, B. J., Passed Assistant Surgeon. Granted leave of absence for fifteen days, from May 1, 1906.

MEAD, F. W., Surgeon. Granted leave of absence for one day, April 16, 1906.

MCCOY, G. W., Passed Assistant Surgeon. Granted leave of absence for one month, from April 5, 1906.

McKAY, MALCOLM, Pharmacist. Granted leave of absence for one day.

RYDER, L. W., Pharmacist. Granted leave of absence for three days, from April 5, 1906.

SCOTT, E. F., Pharmacist. Granted leave of absence for four days, from March 31, 1906, under Paragraph 210 of the Regulations.

STIMPSON, W. G., Passed Assistant Surgeon. Granted leave of absence for three days, from April 11, 1906.

VAN NESS, JR., GEORGE I., Pharmacist. Granted leave of absence for thirty days, from April 25, 1906.

WERTENBAKER, C. P., Surgeon. Relieved from duty at St. John, N. B., and directed to proceed to Quebec, Canada, with the Commissioner of Immigration.

WHITE, M. J., Passed Assistant Surgeon. Granted two months' leave of absence, from July 15, 1906.

YOUNG, G. B., Passed Assistant Surgeon. Granted leave of absence for three days, from April 6, 1906.

Board Convened.

A board of officers was convened to meet at San Francisco, Cal., on April 13, 1906, for the purpose of making a physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon H. W. Sawtelle, chairman; Passed Assistant Surgeon J. M. Holt, recorder.

Casualty.

Acting Assistant Surgeon N. D. Richardson died at San Francisco Quarantine Station, April 9, 1906.

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army, for the week ending April 14, 1906:

AMES, M. H., Assistant Surgeon. Appointed an assistant surgeon, with the rank of lieutenant, junior grade, from March 24, 1906; ordered to the Naval Hospital, Norfolk, Va.

BUCHER, W. H., Surgeon. Ordered to Washington, D. C., to report to the Surgeon General for assignment at the Naval Hospital.

DE BARRIS, J. P., Assistant Surgeon. Detached from the Oregon and ordered home to await orders.

ELDER, H. H., Assistant Surgeon. Detached from duty with naval recruiting party No. 4, and ordered home to await orders.

FARNHOLT, A., Surgeon. Detached from the Oregon, and ordered home to await orders.

KAUFMAN, J. B., Assistant Surgeon. Appointed an assistant surgeon, with the rank of lieutenant, junior grade, from March 24, 1906; ordered to the Naval Hospital, Norfolk, Va.

KIDER, W. S., Assistant Surgeon. Appointed an assistant surgeon, with the rank of lieutenant, junior grade, from March 24, 1906; ordered to the Naval Hospital, Boston, Mass.

ROBNETT, A. H., Assistant Surgeon. Appointed an assistant surgeon, with the rank of lieutenant, junior grade, from March 24, 1906; ordered to the Naval Hospital, New York, N. Y.

SCHALLER, W. F., Assistant Surgeon. Appointed an assistant surgeon, with the rank of lieutenant, junior grade, from March 21, 1906.

WARNER, R. A., Assistant Surgeon. Ordered to the Naval Academy.

WINN, C. K., Assistant Surgeon. Appointed an assistant surgeon, with the rank of lieutenant, junior grade, from March 24, 1906; ordered to duty with naval recruiting party No. 4, at Des Moines, Iowa.

LYSON, CHARLES, Major and Surgeon. Promoted to the rank of major from April 1, 1906.

MANNING, THOMAS H., First Lieutenant and Assistant Surgeon. Promoted to the rank of first lieutenant from March 24, 1906.

STARK, ALEXANDER N., Major and Surgeon. Promoted to the rank of major from March 24, 1906.

WATSON, JOHN D., Captain and Assistant Surgeon. Granted thirty days' leave of absence, with permission to go beyond the sea.

WATSON, A. D., Captain and Assistant Surgeon. Granted thirty days' leave of absence, to take effect about April 1, 1906.

WATSON, W. F., Captain and Assistant Surgeon. Granted thirty days' leave of absence.

WATSON, A. D., Captain and Assistant Surgeon. Granted thirty days' leave of absence, to take effect about April 1, 1906.

The following named assistant surgeons will report in person to the Surgeon General, Washington, D. C., on April 1, 1906: **AMES, M. H.**, Assistant Surgeon, from Norfolk, Va.; **BUCHER, W. H.**, Surgeon, from Washington, D. C.; **DE BARRIS, J. P.**, Assistant Surgeon, from the Oregon; **ELDER, H. H.**, Assistant Surgeon, from the Naval Hospital, Boston, Mass.; **KAUFMAN, J. B.**, Assistant Surgeon, from Norfolk, Va.; **KIDER, W. S.**, Assistant Surgeon, from the Naval Hospital, Boston, Mass.; **ROBNETT, A. H.**, Assistant Surgeon, from the Naval Hospital, New York, N. Y.; **SCHALLER, W. F.**, Assistant Surgeon, from the Naval Hospital, New York, N. Y.; **WARNER, R. A.**, Assistant Surgeon, from the Naval Academy; **WINN, C. K.**, Assistant Surgeon, from Des Moines, Iowa.

Navy Intelligence

The following named assistant surgeons will report in person to the Surgeon General, Washington, D. C., on April 1, 1906: **AMES, M. H.**, Assistant Surgeon, from Norfolk, Va.; **BUCHER, W. H.**, Surgeon, from Washington, D. C.; **DE BARRIS, J. P.**, Assistant Surgeon, from the Oregon; **ELDER, H. H.**, Assistant Surgeon, from the Naval Hospital, Boston, Mass.; **KAUFMAN, J. B.**, Assistant Surgeon, from Norfolk, Va.; **KIDER, W. S.**, Assistant Surgeon, from the Naval Hospital, Boston, Mass.; **ROBNETT, A. H.**, Assistant Surgeon, from the Naval Hospital, New York, N. Y.; **SCHALLER, W. F.**, Assistant Surgeon, from the Naval Hospital, New York, N. Y.; **WARNER, R. A.**, Assistant Surgeon, from the Naval Academy; **WINN, C. K.**, Assistant Surgeon, from Des Moines, Iowa.

Births, Marriages, and Deaths.

Married.

HELM, M. C.—In Philadelphia, on Wednesday, April 18th, Dr. G. Morton Illman and Miss Anna Ray McCahan.

WORTHEN—FITZGERALD.—In Lynn, Massachusetts, on Friday, April 6th, Dr. Charles H. Worthen and Miss Agnes L. Fitzgerald.

Dead.

BLACK.—In Knoxville, Tennessee, on Saturday, April 7th, Dr. J. M. Black.

DAVIS.—In New York, on Friday, April 13th, Dr. Robert C. Davis, aged fifty years.

EASTON.—In Elmira, New York, on Monday, April 9th, Dr. J. D. Easton, aged fifty-four years.

FESSENGER.—In Geneva, Kentucky, on Monday, April 9th, Dr. J. G. Fessenger, aged sixty-two years.

HAWKES.—In Philadelphia, on Thursday, April 5th, Dr. Edwin Green Hawkes, aged forty years.

HAWKES.—In Saranac Lake, New York, on Monday, April 9th, Dr. J. D. Hawkes.

KYLE.—In Palmerston, Ontario, on Saturday, March 31st, Dr. W. H. Kyle.

McEACHRAN.—In Detroit, Michigan, on Monday, April 9th, Dr. Hugh A. McEachran, aged thirty-six years.

O'NEILL.—In Philadelphia, on Tuesday, April 3rd, Dr. M. P. O'Neill, aged thirty years.

READING.—In Hatboro, New Jersey, on Saturday, March 31st, Dr. A. J. Reading, aged sixty-five years.

ROSS.—In Baltimore on Thursday, April 5th, Dr. Oscar E. Ross, aged forty years.

STEVENS.—In Watertown, New York, on Saturday, April 7th, Dr. Andrew B. Stevens, aged sixty-six years.

WEDGEWOOD.—In Lewiston, Maine, on Monday, April 9th, Dr. Milton C. Wedgewood, aged seventy-four years.

WENTWORTH.—In Auburn, Maine, on Tuesday, April 10th, Dr. Stephen E. Wentworth, aged sixty-nine years.

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THE OVERTRAINED NURSE.*

By W. GILMAN THOMPSON, M. D.,

NEW YORK.

In the January, 1906, number of a monthly journal called *The Trained Nurse*, on page 35, appears the following statement:

"The whole question is this: Is nursing a subordinate profession to medicine, or is it a separate, distinct, and independent profession, which when it gets old enough and big enough, is going to sever every connection with medicine, and set up as an entirely separate science or art?"

Thereafter follows an argument upon the thesis that nurses do not have physicians always upon their examining boards, because doctors do not have nurses upon theirs!

With such a broad issue raised by the nurses themselves, it is high time that the members of the medical profession should give emphatic expression to their views regarding the whole question of the modern methods of training nurses, and of the results which such training has thus far produced. It is for this purpose that this discussion has been inaugurated, with the hope that a better understanding of the subject may be established, and that practical suggestions of value may be given publicly. In an excellent article upon *The Registered Nurse*, published in the *New York Evening Post*, March 24, 1905, the writer says:

"There is a strong feeling among physicians that the hospital training has become too institutional, the life of the hospital too mechanical, to fit women for private nursing. Conditions in the home are vastly different from those of the hospital."

In the *National Hospital Record* for February, 1906, a journal devoted largely and intelligently to nursing interests, the following editorial sentence appears:

"WHERE THE CHIEF FAILURE LIES.

"In view of the many adverse criticisms of the trained nurse of to-day—the product, partially at least, of our hospital schools—it behooves hospitals in general to examine themselves, and see wherein the institution is responsible for the widespread dissatisfaction that seems to exist with nurses in private practice."

A fundamental error obtains in attempting to designate the occupation of a nurse as a profession. It is a profession in no proper sense of the word, which "implies professed attainments in special knowledge, as distinguished from mere skill"—

* A paper read at the New York Academy of Medicine, March 29, 1906.

(*Century Dictionary*). The work of a nurse is an honorable calling or vocation, and nothing further. It implies the exercise of acquired proficiency in certain more or less mechanical duties, and is not primarily designed to contribute to the sum of human knowledge or the advancement of science.

In 1883 I published a small book, entitled *Training Schools for Nurses*, in which was given a history of the origin of such schools, with notes on the various schools at that time existing in this country. Of these there were twenty-two, situated in sixteen different towns, and with 150 teachers. In 1904, or twenty-one years later, there were 867 schools in the United States, among 1,484 hospitals, having 21,844 pupils. The ratio is thus shown to be considerably higher than one school for every two hospitals—(*U. S. Census Report on Benevolent Institutions*, 1904). In New York State alone are seventy-nine schools registered by the Board of Regents—(*Handbook 13, State of New York Education Department*).

The first schools were opened in this country in 1872, and the average rate of increase for the first decade was two new schools per annum, whereas the average for the two succeeding decades has been forty-two new schools per annum. This phenomenal rate of increase will probably be somewhat lessened in future, as the larger hospitals are supplied, yet many of the smaller institutions are likely to establish schools of their own. In fact, some hospitals containing only twenty to thirty beds have opened their own training schools and give full courses of training to five or six nurses at a time, furnishing the trained nurse diploma. In several of the larger cities there are as many as nine schools, and in Chicago there are thirteen. The present rate of increase of pupils in attendance at all the schools exceeds 500 per annum. This represents an enormous industry, and the financial investment in the elaborate separate training school buildings with which many large hospitals are now equipped constitutes an item of no small economic interest.

In former times much was written regarding the "sentiment" of nursing. We were told how a new vocation had opened for deserving poor women who could thus support their widowed mothers and help to educate their orphaned sisters! The pay of the trained nurse in hospital in some instances was \$12 to \$15 a month; her course of training was short, and she was promptly equipped to earn a living. To-day, however, one hears much less of sentiment among the schools, and much more of business. A large number of schools now pay their nurses nothing, and many of the larger ones are charging

nation first. A statement is often made that the average number of years in which a nurse follows her calling is ten, the number being rapidly depleted by marriage, illness, or retirement. Largely, it would seem, by overlooking superintendents for new schools. I have been unable to verify the accuracy of this estimate, but I believe it is approximately correct, and I have seen it made again in a medical journal within a few weeks. The course of training is being rapidly lengthened. In considerably more than one-half of the schools it is now three years, in several it is four and a half years, a school in Connecticut, alone, advertising a four years' course, and, not far from there, Boston has advertising a course of five years' course. As a purely business proposition, it is poor economics to spend these years of the most active years of one's life in acquiring a training which, by the laws of chance, may not serve one more than ten years as a means of livelihood.

An editorial in the *Philadelphia Medical Journal* (June, 1906) refers to the "overtrained nurse" as follows:

"The nurse is trained to do things which require that she should be studying three years of arduous training in order to do some of the most of her work."

It is maintained by the advocates of prolonged training that the demands of modern medical science require it; that more and more time is needed for preparation for antiseptic operations in the surgical service and for preparation for such procedures as phlebotomy, transfusion, blood examinations, etc., in the medical service of the hospital.

It is a fair statement, however, that the desire for prolongation of the course of training and the increase in the training school curriculum has arisen, not among physicians, not even among many of the nurses, but among the managers of rival schools who each year in their state and national associations advocate it, sometimes despite the opposition of physicians. The medical profession has good naturedly looked on in wonder if not admiration, taking little or no active direction of schools which have been largely organized and endowed by lay managers. There are comparatively few schools today in which there is any medical representation whatever upon their board of management, or any definite medical control, or supervision of the curriculum, and I have known instances where polite insistence of a medical board, that it should revise the curriculum, has been regarded as an almost unattainable ambition.

The result is that nurses are absurdly overtrained and wrongly trained. Their long period of hospital life, one third longer than that of members of the house staff, begets routine methods of work which are not those for the proper care of the individual patient, and the studies which they undertake in many instances belong to the first or even second year of a medical college course. As they are too busy with twelve hours a day of mechanical work to study any textbook subject thoroughly, they acquire a mere superficial introduction to many subjects which do not in the least concern the true office of the nurse, and, illustrating the danger of "a little knowledge," they acquire also an entirely wrong perspective. In support of this opinion, I will quote a series of examination questions asked of the nurses at

a well known school in the West, which are included as representative and model questions in the *United States Bureau of Education Report upon Nurses' Training Schools for 1904*:

"What are the following operations: colpoperineoplasty, cholecystectomy, myomectomy, colpocystotomy?"

"What kind of nerves are the fifth and seventh cranial nerves?"

"Name the bones of the head and face."

"Name the germinal points that cause disease."

"What is diabetes?"

"Does the presence of albumen necessarily indicate disease of the system?"

"How do you test for free hydrochloric acid in the gastric contents?"

"What test would be used in general urinalysis?"

"Give a 30 line [sic] treatise on digestion." [perhaps of a "quick lunch?"]

I submit that that sort of examination does not concern nursing, but first, second, or third year medicine. To answer such questions with the slightest comprehension of their meaning requires months or years of study of the special subjects mentioned—otherwise they are farcical. What can a nurse write in "100 words of general urinalysis" that is worth the paper it is written upon, and what has a nurse to do with the analysis of urine or gastric contents, especially when she does not know, as many of them do not know after three years of this sort of "training," how to count or describe a pulse properly, or even how to make a patient comfortable in bed! In one of the schools nearer at hand, it is seriously proposed to teach the nurses how to count leucocytes! In other schools courses in reading aloud and "voice culture" are given.

The following series of nurses' examination questions illustrates the tendency to introduce the dangerous topic of the treatment of disease into their work. Questions from the *Fourth Nurses' Examination*, New York State Board of Regents, January, 1906:

"State the probable cause of convulsions in the new born, and give treatment."

"Describe cholera infantum and give treatment."

"Give the treatment of croup."

"Give the causes, symptoms, and treatment of rickets."

"What does hæmorrhage before labor usually indicate? Give treatment."

"Describe the process by which bacteria multiply."

"Name three diseases in which bacteria are thrown off by the skin" [sic].

In an editorial in the *New York Medical Journal*, of March 10, 1906, the statement is made that "the nurse who has been stuffed with medical and surgical information which she has not thoroughly digested is a creature far too commonly met with."

At a recent meeting of the Medical Society of the County of New York, in a paper upon *The Relation of the House Staff to the Hospital Patients*, I gave illustrations of the manner in which the overtrained nurse is usurping much of the work which ought to be done by the house staff, while the latter betake themselves to the clinical laboratory of the hospital in self defence, and leave the patient to work out his own salvation. (Paper published in the *New York Medical Journal*, April 14, 1906.) Next day I received the following indorsement of my remarks from a very successful hospital superintendent (who was herself a trained nurse under the earlier system): "Running a hospital is sometimes made much harder because of the presence of the overtrained nurse—and the undertrained house staff."

Dr. Charles W. Kollock, of Charleston, S. C., in a letter to the editor of the *New York Medical Journal*, July 30, 1904, p. 235, wrote:

"I am inclined to think that a woman who has a good common school education (can write and speak correctly) and average mental capacity will, with other requisites (love and interest for her work), make a competent nurse after two years of careful and conscientious training."

Having had considerable experience in the employment of nurses from many different schools, and having been officially associated with several schools, I have no hesitation in asserting that, from the medical standpoint at least (I do not speak from the surgical aspect), nurses were quite as satisfactorily trained under the two years' system as under the three years'.

The *Hospital Record* for March, 1906, contains the following editorial reference to this subject:

"The extension of the term ought to mean a broader, more complete training, but it does not in many cases. It means often that the nurse keeps on doing the same thing the third year that she did in the first six months. It does not mean that the nurse is any better equipped at graduation than under the two year regime. It would seem that with the widespread dissatisfaction with nurses in private practice that prevails, and is discussed publicly and privately, and in every journal that has anything to do with nurses, in medical journals and in the public press, that hospital boards would have given some special attention to that weakness, and provided both for instruction in private nursing and some experience for every pupil nurse in that kind of work before graduation."

I would urge the following practical suggestion. Instead of attempting to train all nurses in like degree with so elaborate a curriculum, it would be much better to graduate all suitable pupils after two years of training, and give an additional certificate to such as desire to prolong their course for a year or more by postgraduate work, thereby constituting a second group trained in particular methods, and having larger experience, from which could be drawn the superintendents of new schools, district nurses, nurses for sanatoria, and for other special services. By this means credit would be given for proficiency where it is due, and those who are compelled to follow the work of ordinary private nursing would be free to do so at an earlier period. One of the reasons given for extending the nurses' course of training from two years to three is that the hospital is better served by nurses having the longer experience. After personal trial of both systems, I have failed to be convinced of the force of this argument, and if the suggestion above made were carried out, there would always be enough nurses who would return for postgraduate work if an additional certificate were issued to them, to safeguard the interests of the hospital. It is good for them to return after a few years' experience with private cases, and keep in touch with new methods. In fact, the adoption of the third year course never arose originally from genuine educational demands. It was established in part to save a few of the larger hospitals the expense of hiring graduate head nurses, and the smaller institutions, not to be outdone, have felt constrained to "follow the leaders."

The recent (1902) successful effort of the nurses to secure State protection of their calling is likely to produce some undesirable results, results akin to the embarrassments attending the licensing of medical

practitioners under laws which vary in each State, or to the variations in the laws of divorce. Thus a nurse may accompany a patient going South, and, completing her service with that patient, may desire to take charge of another case before returning, but she is only licensed to nurse in her own State, in fact in her own county. She finds herself, for example, wedded to her calling in New York, divorced from it in New Jersey, and a sort of "grass widow" in Maryland, each of these States having its own peculiar registration laws.

One of the oldest, and long one of the best, of the schools in this country is in a neighboring New England State. The course of instruction comprises two and a half years, yet the graduates of this school have been refused registration in New York State. It happens that the final nine months of the training are spent in extramural work, but this reduces the actual time in hospital to twenty-one months, or three months short of the time prescribed by law in this State. It also happens that this excellent school is supported almost entirely by the outside earnings of its nurses. If it curtails these earnings, it will be bankrupt, and if it lengthens its term of service, it will be thrown into more serious competition with other schools which have an unnecessarily long course.

The establishment of legislative standards for nursing seriously interferes with the independence of hospitals which are compelled to adopt fixed training school standards which are not always in accord with what in individual hospitals might secure the best care of their patients. But the effort to rush into legislation has already revealed other drawbacks. The nurses have not yet agreed among themselves as to what they want. I quote the following paragraph from the *Nurses' Columns of the Dietetic and Hygienic Gazette* of March, 1906, p. 172:

"The nurses of the Empire State are not in the sweetest accord; their organizations have not as yet effected that complete harmony and union that should exist among members of a trained profession [*sic*]. It is so in other States."

The bill recently introduced in the New York Legislature (Senate Bill No. 462) to establish a State Commission for the regulation of the practice of nursing, would, if enacted, prove a decided boomerang for nurses, and teach the folly of rushing into legislation with such a simple matter as nursing.

In a paragraph in a late number of the *Journal of the American Medical Association*, headed "The Battle of the Nurses," it is pointed out that the question of parliamentary registration of nurses produced a secession from the ranks of the Royal British Nurses' Association, with formation of a new Society for the State Registration of Nurses, the main source of dispute being the question of the extent of control of the examining board by physicians.

The most serious feature of the State examination of nurses as at present conducted is found in the fact that, being for the most part a written and oral (not bedside) examination, it is even less a test for fitness to practice nursing than the similar regents' examination is an adequate test of the fitness of physicians to practise medicine. I have served on training school examining boards for twenty years in different hospitals, and testify that the very best

trained body, well-trained body, the common wisdom and the common sense. In a country where this is the case, the training of the nurse is a matter of public health, and the training of the nurse is a matter of public health.

What is the result of the present situation of affairs? The result is that the training of a nurse is a matter of public health, and the training of the nurse is a matter of public health. The result is that the training of a nurse is a matter of public health, and the training of the nurse is a matter of public health. The result is that the training of a nurse is a matter of public health, and the training of the nurse is a matter of public health.

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We are in the same position in the case of a nurse. There is no more need of a nurse than for the training of a nurse. The result is that the training of a nurse is a matter of public health, and the training of the nurse is a matter of public health. The result is that the training of a nurse is a matter of public health, and the training of the nurse is a matter of public health. The result is that the training of a nurse is a matter of public health, and the training of the nurse is a matter of public health.

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What the community needs is the establishment of a class of attendants who can take care of ordinary simple cases, for ordinary moderate wages, or who can work with the trained nurse, and help in more serious cases, like typhoid fever, for instance, which has up to three times the value of a nurse, and who can help in the family. They are a true institution (mostly branches of the Young Women's Christian Association) which, like the nurses, are in the public health, Brooklyn, under the same conditions as the attendants, but they are far from being connected with hospitals. They are far from being connected with hospitals. They are far from being connected with hospitals.

The result is that the training of a nurse is a matter of public health, and the training of the nurse is a matter of public health. The result is that the training of a nurse is a matter of public health, and the training of the nurse is a matter of public health. The result is that the training of a nurse is a matter of public health, and the training of the nurse is a matter of public health.

In the *Charlotte Medical Journal* of June, 1904, Dr. J. T. B. Berry, of Brandon, Miss., publishes a capital article entitled *The Country Surgeon and his Nurse*, in which he refers to the inability of country residents with moderate means to "secure the services of a trained nurse for two reasons. First, they are not able financially. Second, it would take too long to get one to the patient, for we would have to go to some city to find one." The writer con-

"We have not a nurse in the country, and we have no money to go to the city to find one. We have no money to go to the city to find one. We have no money to go to the city to find one. We have no money to go to the city to find one."

The late Dr. Samuel D. Gross was the father of the whole training school system in this country, having introduced it in 1868 after a visit made to Europe for the purpose of studying foreign nursing systems. In the *Medical News* of September 15, 1883, he wrote an article entitled *Remarks on the Importance of Having Trained Nurses for the Smaller Towns and Rural Districts, and the Proper Method of Securing Them*, and he repeated therein a suggestion previously made by him to the American Medical Association, namely:

"that district schools should be formed, and placed under the guardianship of the county medical society, the members of which should make it their business to deliver, at such time and place as might be most convenient, instruction in the art and science of nursing, including the elements of hygiene, and every other species of information necessary to qualify the student for the important, onerous, and responsible duties of the sick room."

I recently witnessed an exhibition drill of a group of probationers of a training school where six months is spent in study before ward responsibilities begin. The probationers had been trained for three months only in keeping clinical records, adjusting beds, and bed appliances, etc., and the comment of a physician present was, "Why not graduate these women now? they know how to do enough for ordinary cases, and how can they be occupied in the school for nearly three years more?"

What an elderly patient requires with paralysis lasting several months is not an overtrained nurse who can talk about "colpoperineoplasty" or write a thesis or uranalysis and give her views of Bright's disease, at \$100 a month, but some one who can feed her, adjust her pillows, and report any sudden change in her condition to the physician. No one can seriously question the desirability of having some nurses trained in all the possibilities of their work, but that they should all be overtrained by the same inflexible routine, to the same high degree, and to the complete exclusion of humbler attendants, is a serious detriment to the public welfare and a wrong pedagogic principle.

We are apt to lose sight of the true function of the nurse, in these days of scientific medicine, as we are apt to lose sight of the purely human side of medical practise, in our enthusiasm for germ cultures. The function of the nurse, the good, old fashioned pretraining school nurse, was, first and last, *to make an ill person comfortable in bed*. The function of the trained nurse, as originally conceived by the physician, is, *in addition*, to observe and record certain data of the patient's condition, and, in the case of surgery, to learn how to clean her hands

and cleanse instruments. It is not nursing to strap all the bed clothing in a ward so tight that every patient acquires talipes equinus because it looks better not to have a single coverlet disarranged! That may be discipline or training—it is not nursing. Nor is it nursing to fail to recognize after three years of training when a patient with cardiac orthopnea needs a back rest and foot support; it is not nursing to awaken every patient in the ward every morning at 4:30 o'clock "for the convenience of the night nurse," so that she can get her ward in order and records finished in time for the day nurse to begin her duties with a free hand! It is not nursing to crucify the mildly delirious patient to the bed for hours on his back with fast bound hands and feet, when all he needs is to turn over into a comfortable position for sleep. This is not nursing, nor are these illustrations imaginary, but taken from recently observed fact. They denote the tendency of modern schools to dwell upon inflexible, unthinking routine, and advanced pedagogic methods, to the exclusion of cultivation of the nurse's individual judgment, tact and common sense. Dr. Edward J. Ill, of Newark, in an article upon *The Trained Nurse and the Doctor* (*Journal of the Medical Society of New Jersey*, August, 1905), has well said:

"The best all-around nurse is the good observer, the quick witted, conscientious, and resourceful woman. No amount of training will supplant these good traits."

The modern schools are tending to become young women's seminaries for pseudoscience teaching, in laboratories and lecture rooms. It is a curious fact that, whereas the medical colleges are striving towards emancipation from didactic methods, with substitution of closer bedside study, in modern nursing the tendency is largely the other way.

It is easy to fix the responsibility for overtraining in the nursing industry. It lies wholly at the door of the medical profession. It is because physicians do not insist upon having what they want at the bedside that they do not get it. Dr. Edward J. Ill writes (*loc. cit.*): "We of the medical profession are much to blame for the faults found in the nurse." I should amend that by saying "the faults found in the *nursing system*," for the faults of the nurse are human and common to us all, whereas the faults found in the training system are superintendental. Physicians stand aloof, and criticise the lay managers of the schools for petting and spoiling the nurses, and they leave so much responsibility to the nurses that the nurses acquire a misconception of their functions, and their energies are often misdirected.

In conclusion, I would emphasize again the following suggestions:

1. The medical profession should define emphatically and clearly the limitations of the nurse's sphere of work and study.
2. Physicians connected with institutions fostering training schools should insist upon representation upon their boards of school management, not merely in an advisory but in a governmental capacity.
3. The curriculum of every training school should be submitted for approval and adoption by the physicians associated with the government of the school.
4. The period of work for the trained nurse's ordinary diploma should be two years, but subse-

quent training for a year or more should entitle the graduate nurse to an additional certificate.

5. Hospitals should admit for brief periods of study (say 6 months) a class of trained attendants, who should be exercised in the care of ordinary cases of illness not involving special technical skill, or extended experience, and who could, in serious cases aid the trained nurse in the work, and during convalescence supplant her at less expense to the patient.

6. Provision should be made for the study of the nursing of private patients prior to graduation.

7. Whatever shortcomings may be demonstrated in criticism of the present system of nurse's training, the primary responsibility therefor belongs to the members of the medical profession, who, if they would devote as much time and thought to the problems of the training school curriculum, the relationship of the work of the nurses to that of the house staff in hospitals, and similar matters, as they devote to other medical duties, would soon produce ideal results in a system which, despite its serious shortcomings, has proved of the greatest possible benefit ever since it was established.

34 EAST THIRTY-FIRST STREET.

THE TRAINED NURSE AND SURGERY.

By ROBERT ABBE, M. D.,

NEW YORK,

SURGEON TO ST. LUKE'S HOSPITAL.

I am sure no one in this audience will misunderstand the spirit of the discussion this evening, nor think that we conspire to diminish the value, importance, or dignity of the calling of the trained nurse. We have all aided in building up this noble profession, and we cannot do aught but still further ennoble it. But we may be pardoned fair criticism in hopes of purging it of accretions and errors which naturally creep in. The great advance over the old-time sickroom nurse is obvious. We have assisted at this triumph of woman, and abetted her in displacing the male nurse to a great extent.

At the outset of my remarks on the relation of the trained nurse to surgical work, I desire to emphasize one fact too often lost sight of by the public, namely, that she is a picked woman, selected for qualities almost intangible to the casual observer, but known well by the superintendent. Out of a thousand letters received annually at any of our large hospitals, from women desiring to enter the work, who apply from their own feeling of fitness and desire, as well as need of being breadwinners, the superintendent selects one hundred for first consideration and by a sifting process, applying reason, experience, and a natural unerring gift, makes choice of a class which may finally graduate twenty-five well trained nurses. What wonder, then, that these fine grained, well disciplined women are welcome in any home, and bring instant comfort to the sick?

In my judgment this natural selection constitutes three fourths of the essential worth of the nurse, so that, given such a select group, trained two or three years in active hospital wards, we have experience added to worth. Now add familiarity with surgeons' methods, and personal equation in dealing with surgical cases, plus a limited amount of tech-

They recall the primitive conditions which prevailed in its earlier years and the comparatively insignificant place it then occupied. They have witnessed the expansion of the idea, the enlargement of the scope of the institution, until they have seen it pervade the entire hospital, touching its interests at every point and exercising a controlling influence in its business and routine. They have seen the accommodations provided for the pupils, originally meagre and uninviting, give place to large and commodious homes, some of them almost palatial in their design, and luxurious in their furnishing, and

equipped with every possible convenience in the way of lecture rooms, libraries, laboratories, and diet kitchens. They have seen the curriculum develop from the simple instruction intended to acquaint the pupil with her duties towards the patients in her contact with them in the wards, into an educational scheme which opens up branches of study and investigation, second only to that furnished in a well equipped medical school. They have seen the simple nurse transformed into a professional woman, and the calling of the trained nurses exalted into a profession. They have witnessed the recognition of the trained nurse by State legislatures in the enactment of laws which confer upon the privileged ones the right to inscribe a title after their names, and which excludes others from the ranks. They have seen the guild uniting in local organizations which have expanded into national and even international associations. They have become familiar with a literature which, growing, like the institution it befriends, has expanded into periodicals, magazines, and volumes without number; and these dealing not merely with the practical matters of nursing, but with the larger, broader, deeper questions of the professional care of patients, the management of hospitals, and their architectural construction. And all this marvelous growth and expansion, in a period but little more than a quarter of a century, has occurred without any crusade, without any struggle for existence, without any noisy or boisterous demand for recognition, but with a quiet, persistent, unintermittent development of the possibilities inherent in the institution, until the present degree of maturity and completeness has been attained.

Looking back over the comparatively few years which have been sufficient for this great development, the hospital veteran, who has been a silent and interested spectator, finds it difficult to recognize in this virile, dominant power, the feeble institution he remembers in the earlier years.

The training school has certainly made a place for itself and has become an integral, essential part of the modern hospital. When a new hospital is being planned and a new hospital scheme is being developed, the training school is a factor which must be reckoned with. Whether this expansion has been wise or not, whether the prominent and controlling place now occupied by the training school in the modern hospital is for the best interests of the hospital, whether the present methods are the best for making the pupil a well trained and efficient nurse, are questions which do not fall to me to consider. They will be discussed by those who follow. My assignment is "The Organization and Control of Training Schools," and in the brief space in which I shall claim your attention, I shall confine myself to the consideration of that branch of the subject.

That the training school has become an essential feature of the modern hospital cannot be questioned. To attempt to conduct a hospital at the present day without it, would be like attempting to conduct business on methods which prevailed two or three decades ago. The nursing of the patients is almost, if not quite, as important as their medical care, and the primary aim of the school is, or should be, so to train and educate the pupils that they may give to the patients that faithful, intelligent, and conscientious care and attention which they have a right to

expect, and without which the efforts of the physician may often be made in vain. The work of the two—physician and nurse—is intimate, harmonious, and complementary, and this truth should be instilled into the mind of the pupil early in her career, and emphasized over and over again throughout her course. This involves the selection of one to preside over the school and shape its course who will ever have the fullest appreciation of this fundamental fact, and who will plan the instruction, theoretical and practical, so wisely, and who will impart it so thoroughly, that at the end of a given course the pupil will be graduated not with a superficial knowledge of medicine, but with a thorough and practical knowledge of the business of nursing, and with an ability to apply that knowledge in all her subsequent contact with the patients committed to her charge. As this superintendent or directress of the school will influence the body of pupils very largely by her own personality, the importance of a careful selection cannot be exaggerated. It is to her the pupils will look for example as well as precept, and the impulses thus given may abide in controlling power throughout life. The responsibility thus incurred may well cause serious reflection on the part of every incumbent of the position. The number of assistants which the principal should have will, of course, be determined by the volume of the work to be done.

What I believe to be a defect in the scheme of organization generally prevailing at present is that the members of the school, while remaining pupils throughout the course, become a part of the teaching machinery as they advance in grade until they reach the highest grade, when, as head nurses in charge of wards, they become a very important part of that machinery, having to do largely with the instruction in ward duty of those of lower rank associated with them in the wards. I am convinced that this is a defect in the system, and this conviction is the result of many years of observation. There is a wide difference between a good nurse and a good ward keeper. Many who are conspicuously successful in the duties of the one are not successful in the other. Yet in the development of the scheme, all who reach the highest grade become head nurses in charge of wards, or, at least, as many as can be thus provided for. This, at least, appears to be the working out of the scheme. That it is defective must be apparent to all who are familiar with ward conditions. I do not believe that the patients suffer—indeed, I am convinced that they do not—but the discipline of the ward, the maintenance of a high standard of efficiency, the care and attention to minor but important details, the impress of a master hand on what may be called the ward housekeeping,—all this suffers notably and the general tone of the ward is lowered.

I refer now especially to such matters as neatness, tidiness, cleanliness, to the close attention to such details as will keep the ward always in a condition ready for inspection. In this direction, I believe there has been deterioration. Whether this be due to the larger amount of technical detail now crowded into the instruction and which absorbs the time and attention of a head nurse, so that no time is left to attend to these other matters, or whether these other matters have come to be regarded as

comparatively unimportant, I cannot say. That the common sense of society unfortunately takes it to be so is a dangerous mistake, and one the correction of which is part of the training which I am recommending. One reason for this, however, is that people are too much engrossed in the struggle of social reform. They have reached that point in the social struggle which duty emphatically calls upon them to ignore of their realisation for the present. Another reason may be found in the fact of the hard work of persons and the frequent change of individuals. The point is all too brief for the present moment, and though the pupil thus spends the entire period of her last or highest grade

ed that this is a matter which demands attention, and my own belief is that the remedy may be found in placing the wards in charge of nurses. These nurses should be carefully selected for their ability and efficiency, and as will make them competent to the position for many years. They should have a large number of pupil nurses under them, and the duties of the ward should be so distributed as to leave the head nurse free to direct and supervise, and find time to look carefully after the health and comfort of the care of the patients. Then the management of the ward keeping might be done successfully without the interference of the physician to the frequent changes of the physician. Then, too, such important matters as the cleanliness, the proper and economical distribution of the food and other supplies, now so generally neglected, might receive the attention they deserve.

I am aware that this plan is objected to on the ground that the pupils who are now quite willing to endure the period of drudgery and hard, uninteresting work which falls to them in the earlier years of the course, for the sake of the larger authority of the more advanced work, and the more acceptable means of earning it, which come with the more advanced term, would be unwilling to continue the same conditions if the anticipated reward were removed, and that a school which deprived its pupils of the peculiar kind of experience would be depriving the applicants seeking admission of the same.

That objection does not impress me seriously. I believe that all the good that can be accomplished in the world is accomplished by the minority. On the contrary, I believe the change in the world would be greater under the present conditions, with all the intimate lines of ward and neighborhood, than it would be under the conditions of the world as it now stands and in competition with the world as it would be under the conditions of the world as it now stands. I believe that the change in the world would be greater under the present conditions, with all the intimate lines of ward and neighborhood, than it would be under the conditions of the world as it now stands and in competition with the world as it would be under the conditions of the world as it now stands.

I have argued that we need a closer relation between the school and the community with a common staff and purposes. There is still some to be done here and there. I would not say that the national staff almost have a controlling part in the conduct of the school, but I think the complete living which should make the present school is unfortunate. At the same time we are conscious that our prior

the head of the school, for guidance, direction, instruction, and example, so, in the same way, she ~~will be in the same way~~ professional charge of the patients in her ward. His methods, manners, habits, and professional conduct will impress her seriously and will be, to as large a degree as the changed conditions will permit, adopted and pursued by her. It should be within the power of the attending physician or surgeon to make his visits to the wards a part of the training and instruction of the pupil, and his relation to the school should be of that intimate character as would not only make this possible, but would make it a part of his duty. In passing, I can only thus briefly touch upon a subject which I believe to be of prime importance.

As to the control, the school should be recognized as one of the departments of hospital work, and, like all the other departments, should be directly and immediately subordinate to the executive authority. The tendency towards an independent department, which is sometimes apparent, is unfortunate and revolutionary. The executive authority, whether it centres in a body called a committee, or in an individual, should extend over the entire institution, and exercise control over every department. Imagine, if you can, a ship with one department, say that of the engineer, independent of the authority of the captain; or a regiment, with one company independent of the colonel; or an army, with one regiment independent of the general. Yet such a condition would be no more anomalous than that of a hospital, with one department independent of the central authority.

The tendency of the training school is more and more in this direction of independence. There is a manifest restlessness under control which is not apparent in any other department of the hospital, and which indicates a desire to be self-governing, and to make the school a miniature *imperium in imperio*. More and more as the school horizon widens, as its scheme broadens, as the ground it covers enlarges—and there appears to be no limit to its development in these directions—is this aim apparent. In the exercise of a general control by the executive authority, there need be no interference with the working details of the school. Indeed a wise exercise of that authority not only will not thus interfere with any department, but, on the contrary, will leave each head of a department free in the conduct of its affairs, and will hold him responsible for such conduct. So it should be with the training school. It should be established and maintained as a department of the hospital, conducted by one who, having been carefully selected for her efficiency and ability, is left free to conduct the affairs of her own department, but under the general control and direction of the executive authority of the hospital.

The limits of this paper permit only this brief and cursory mention of a subject which is of prime importance in the conduct and management of a hospital. I do not mean to pose as a destructive critic of the training school system. On the contrary, I am a firm believer in its merits, as I have been for many years actively identified with its development. There are, however, some points in which, as I believe, it has disappointed expectation, and fallen short of its possibilities, and some of these I have endeavored to indicate.

To recapitulate—

1. The organization of the school should be as a department in the hospital to which it belongs.
2. It should be conducted by one who has marked executive and administrative ability, and who, while free to discharge the duties of her office without interference, should, at the same time, be distinctly subordinate and amenable to the general executive authority of the hospital.
3. There should be a closer relation between the school and the attending staff of the hospital.
4. The wards of the hospital should be in charge of capable, permanent head nurses.

WHAT NURSES SHOULD BE TAUGHT.

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It is not the purpose of this paper to enter into any lengthy discussion of the vexed question as to how much theoretical teaching we should give our nurses, but to state briefly what are some of the present day reasons and requirements for a broader curriculum in our training schools.

The art of nursing has undergone a process of evolution, and the graduate nurse of to-day is, from an educational standpoint at least, quite a different person from her sister of twenty years ago. Formerly, systematic theoretical instruction was conspicuous by its absence, the greater part of the teaching and training was given according to the inclination or ability of the head nurse of the ward, together with a desire or not, for knowledge, as she pleased, on the part of the pupil. Conditions have changed, however, and the opportunities and advantages enjoyed by the nurse of to-day, over those of a graduate of some years ago, are largely the outcome of the wonderful scientific discoveries and developments in the fields of medicine and surgery.

In days gone by, physicians and surgeons never required of a nurse what to-day is expected as a matter of course. Recent years have brought about many changes in diagnosis, treatment, and the prevention of disease. Asepsis alone has revolutionized surgery, and in order that its laws may be intelligently and conscientiously obeyed, a clear knowledge of the fundamental principles of bacteriology is absolutely essential. That this knowledge need be only elementary is obvious, but sufficient time should be devoted to it in order that the first principles be thoroughly taught to the best practical advantage of the pupil. The preparation, sterilization, and use of the different surgical materials, give scope for a display of much intelligence, ingenuity, and resourceful economy, all requiring time for thorough, systematic instruction, that the best results for all may be obtained.

Infant feeding and the preparation of infant foods, with many varied experiments, require intelligence and knowledge.

The crusade against tuberculosis further illustrates the importance of including a knowledge of bacteriology in a nurse's education; while infectious diseases, in general, demand more attention in our curriculum. Few schools can offer a practical experience, be it optional or otherwise; consequently careful, theoretical instruction must be compulsory.

The use of antitoxines and serum therapy have added yet other new and interesting subjects, and nurses should at least know something of the preparation, the cost, how and when administered, with the results to be desired, and effects that may be anticipated.

The daily use of the x rays, for diagnosis or treatment, the wonderful revelations of the microscope and cystoscope, the very general use of intravenous saline infusions or hypodermoclysis, all make it very apparent that a nurse's training is a vastly different one from that received by her sister of ten or fifteen years ago.

It would seem at first glance that the curriculum of to-day embraces much more elaborate theory than may be required by the average nurse; that mentally she is over stimulated; but while, in a few schools having exceptional facilities, and with educational aims which some may consider as being beyond the comprehension or needs of the average pupil, on the whole, we cannot believe that in the majority we have overstepped the bounds. The enlarged curriculum is, on the one hand, but the outcome of the great desire to elevate the standard of nursing education; and, on the other, the supplying of what has been a long felt need among nurses themselves, namely, a broader and more thorough professional training. And many earnest, intelligent young women, desirous of preparing themselves for this most important branch of the world's work, are ready and willing to give their best to attain this end.

The average applicant desires the full training and advantages of a three years' course; it is rarely that one comes across a woman who seeks a shorter period of training; while the supply does not equal the demand for the most desirable material, a very obvious reason for this would seem to be found in the marvelous increase in the number of schools throughout the country in the past ten years, with a proportionate increase in the number of pupils. In some of the more representative schools in the country, where the student now pays a tuition fee for a six months' preparatory term, we find no decrease in the number of applicants, while observations show that women, better qualified educationally, intellectually, and morally, are presenting themselves for training.

The constantly increasing demand for postgraduate experience would show a desire for more thorough, up to date knowledge, and gives expression to the fact that progress along professional lines is the aim of those graduates at present engaged in active service.

The many avenues now open to women in the nursing profession make a broader education essential in order to fit them for these various careers of usefulness. What an invaluable member of the community has the nurse proved herself to be in settlement work, in district nursing, in the public schools, in tenement house inspection, for all of which is required a thorough, accurate knowledge of the laws that govern the maintenance of health, the prevention of disease, the betterment of the community generally towards growth, development, and healthy living.

A nurse may well take pleasure in the fresh interests which a knowledge of the scientific principles pertaining to her work may bring to her, and it

should be our aim to personally demonstrate and guide the student, since the professional education, at the same time, has much to offer. The student who enters with instruction will be more likely to receive instruction than the student who enters without. A college graduate will not be turned away at the entrance of a nursing school because of her preparation, although this does advantage combined with professional training and the student should be of good mind and heart to enter the nursing profession. The student who enters with instruction will be more likely to receive instruction than the student who enters without.

It is well to know that the more readily, efficient and more expert qualified a nurse may be the more likely she will be to develop the pupils; much more so in the community school, where the student is a woman, than in the hospital, where the student is a woman, than in the hospital, where the student is a woman.

It is not too much to say that it is a duty, but a duty of more importance and nature, than to be practically efficient, in all that pertains to a nurse's work. This is shown by both the public and the private. The former desire the better educated and more woman, and the latter, when seeking the profession, are perfectly willing to undertake all the work of self-education, education, and instruction, also demands that her intellectual abilities be not allowed to remain dormant, when she is required of her, physically and mentally.

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Wherever we can impart mental principles of any subject, the student is more likely to be subject to the influence of the teacher, and the teacher is more likely to be subject to the influence of the student. This is shown by both the public and the private.

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The teaching of anatomy and physiology, within the limits of the nursing school, is a matter of course, and it is not too much to say that it is a duty, but a duty of more importance and nature, than to be practically efficient, in all that pertains to a nurse's work. This is shown by both the public and the private.

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tem, the preparations, physiological actions, and the use of the more important drugs, together with their constitutional and toxic symptoms, must all be taught. In those cases where this preparation is not given, this teaching would be given; but where the time for preliminary, theoretical instruction is less than three months, what is taught of materia medica should be very limited. Nothing can take the place of knowledge and experience gained when actually engaged in the giving of medicines, with daily opportunity to observe the action, individual susceptibility, and the very present need for absolute accuracy and care in administration.

Domestic science in all its branches is so valuable a study for nurses that we cannot speak too highly of its importance. Fortunate indeed are the women who have had a good home training, or a course in some technical school before entering the nursing profession. It should be the aim of all schools, large and small, to make this branch as thorough, scientifically, and practically, as their means permit. Where there cannot be a more extensive preparatory course, some weeks at least should be devoted to the very necessary first principles of sweeping and dusting, of ventilation and heating, of order and neatness in the care of the pupil's own room, the ordinary care of plumbing, the disposal of garbage and waste, enlarging on special points as the opportunity presents itself.

The study of foods, their composition, preparation, and nutritive value in health and in disease, is, we consider, of paramount importance. While one nurse may seldom or never be called upon to prepare, with her own hands, her patient's meals, another may find her ability in this line one of the crowning points of her success. Diet is so frequently a difficulty; how to tempt a jaded appetite, to make variety where there must of necessity be many limitations; to know how, as well as to know what, often calls for both intelligence and knowledge. Hence, dietetics, with practical instruction, is a most essential subject in our curriculum.

Hygiene, personal and general, should be taught from the moment a pupil enters the school, and the daily observance of its laws, in health and disease, made most emphatic. This teaching, however, should be practical in every sense of the word, and not merely dependent on lectures or theoretical instruction. The different methods of heating, lighting, ventilating; the beneficial effects on the system of pure water, pure air, pure food, and the dangers that may result from opposite conditions, should all have a recognized place in a training school curriculum. And, as has been before stated, this instruction should first be given a preparatory term that practical application may be made later, in the wards.

The first principles of nursing must be taught in a very practical manner, the teacher explaining the reason for each step, that the pupil may know from the beginning that nursing is an art requiring much skill and deftness. Beds and bed making, the care of bed patients, the handling of helpless patients, the various appliances for their comfort or relief, the giving of baths, the use and dangers of the hot water bag, the methods of administering various treatments, of taking temperature, pulse, and respiration, the care of appliances and utensils, should all be taught practically before the

pupil enters the ward, or at least before she is called upon to perform these duties for the sick.

As the pupil advances in her training, the theoretical instruction which she receives, and to which is probably devoted from one to three hours weekly, should be such as will enable her to understand sufficiently of the nature of the disease, injury or operation that her patients may be nursed in a capable and intelligent manner. This instruction, however, must go hand in hand with her practical work, and never to its exclusion. Systematic, practical teaching, and supervision of the nursing of medical, surgical, gynecological, and obstetrical patients, as well as of children, should be as thorough in manner and detail as we can make it. Nursing, properly speaking, can only be taught at the bedside, and the time the pupil spends in the wards should be devoted to the acquirement of skill and knowledge in all that will make her proficient in the art.

The statement has been made that nurses are too mechanical, and that too much time and attention are given to having the beds in line, or the spreads quite even, overlooking the comfort of the patient. Granted that sometimes this be true, the necessity is shown for more instruction, not less; for bedside clinics, if you please, and by those best trained and qualified to teach. Here only is afforded the opportunity for accurate observation, dexterous handling, the development of touch, and ready anticipation of wants. This instruction and supervision should be constant, and given by those not only competent to teach and judiciously criticise, but to develop and direct all that is best in the pupil's nature, by example as well as by precept.

The study of uranalysis need be only elementary; but the pupil should know something of pathological as well as normal conditions, and be taught the simple tests for albumin and sugar. For a nurse engaged in private duty, in a city or town, this experience may rarely be necessary, but nurses frequently are called to patients in the country, where their ability to assist in this manner will make their services all the more desirable; and to a graduate engaged in institutional work, particularly in a small hospital, such knowledge, if only elementary, may be very important.

Massage is another strong point for a nurse, and while in a limited number of lessons she can only be taught sufficiently to give general treatment, and not to handle local, abnormal conditions requiring much more skill, yet this same limited knowledge adds greatly to her capability where the patient's comfort is concerned.

The third year's work of a school connected with a general hospital would include obstetrical nursing, operating room work, the care of private patients, and opportunity for the development of executive ability. In this year the pupil should know for what branch of her profession she particularly desires to fit herself, and be given special opportunities in that line wherever possible. It has been stated that the additional third year, which, by the way, is now the rule and not the exception, has been more detrimental than otherwise, and that a woman with only ten years for active service should not be required to give three of them for her education! Granted, that by the very exacting nature of a nurse's work, with its weeks and months, it may be, of anxiety and

serious responsibility, many women at the end of ten or twelve years may give it up for other occupations; they are often led to do so by a desire for more association with healthy, normal people, for vital, progressive work. On the other hand, some of the best nurses we know are to-day, after twelve and fifteen years of active duty, at the height of a successful career, and constantly in demand.

It must be remembered, too, that the pupils in our training schools are now admitted at an earlier age than formerly; responsibilities sit more lightly, while study to them is a much less difficult matter than to women who have been unaccustomed to the habit for several years. And just as the mental strain is less, so is the physical, and we find, as a usual thing, that at the end of the three years, these young women are better, physically and mentally, with energy, enthusiasm, and ambition for whatever may be their share of the world's work. A graduate of two years ago recently remarked that while she had been taught a great deal in two years, yet in the third she had learned how best to apply her knowledge.

Time is also required for ethical teaching. Nurses should be made to realize their moral obligations to themselves, to the patient, to the doctor, to the community; their professional responsibilities and limitations, and their duty and loyalty in relation to all that tends to elevate the standard of their profession, and to promote its advancement for the utmost benefit to the greatest number.

It has been said that in no other vocation does a true woman show more of the beauty and dignity of labor than in nursing. Sound, thorough theory, scientific accuracy in general principles and minute details, are both desirable, and nurses have shown their ability to absorb the theory and to make of it intelligent, practical application; but the real meaning of good nursing cannot be thoroughly understood until the womanly graces of wise tactfulness, ready sympathy, and unselfish devotion are fully developed and ungrudgingly given. Character can be trained, and surely this part of a nurse's education is by no means the least important, particularly nowadays when younger women are entering our schools, and the majority of pupils we educate are fitting themselves for private duty. It means the training of the heart, as well as the head and the hands; the importance of personality, the manner of doing, and the value of adaptability and wise discretion should be constantly emphasized. Unfortunately, in many hospital wards this teaching is not always possible; economy in nursing as well as in supplies must necessarily curtail one's endeavors. A certain amount of work must be accomplished, and often in the shortest possible time; it is not always easy to keep ahead.

In the large active wards of our city hospitals where emergencies are so frequent, doctors' rounds, clinics, operations, and treatments coming at all hours, day and night, innumerable telephone inquiries; interruptions by visitors or anxious friends; the clerical work expected of the nurse in charge; the elaborate system of bedside notes and temperature charts, all detract from the actual nursing care of the sick. We do not, as a rule, find nurses indifferent; on the contrary, they are ready and willing to be of service and take a genuine interest in their

The old test of Weber, as modified by many more recent investigations, must be most carefully applied in order to yield results. A given mass of stool, five to twenty grammes, must be thoroughly rubbed up with eighty per cent. alcohol until most of the biliary pigment has been extracted; the mixture is then filtered, and the residue treated with ether in the same manner, to extract all the fats; this second residue is then thoroughly shaken up with acetic acid and ether in order to extract the hæmoglobin, the filtrate layered over with peroxide, and then submitted to the action of a solution of Barbadoes aloin in seventy per cent. alcohol. If there has been any bleeding, the final color is a carmin red, which may appear at the junction of the aloin and of the acetic ether extract, or may permeate the fluid; if the reaction is not immediate, the test tube should be observed for some hours. It is essential, before making the test, to give a diet containing no meat and no soup, which should be demarcated by a previous dose of one gramme of charcoal in capsule (not carmine). The test is one which I, personally, regard as among the most important of diagnostic aids. True, it is rarely positive, among the large number of stools which come up for examination; nevertheless, it should never be omitted. It is apt to prove positive in cases where one least expects it, and so throws a flood of light both upon the diagnosis and the prognosis of otherwise obscure or innocent cases. The presence of blood in the stools connotes with cer-

* Used between 1990 and 1995. Source: *Journal of Applied Social Psychology*, 24, 1994, pp. 103-116.

tainty a lesion of continuity in the bloodvessels, due either to ulceration, new growth, severe grades of congestion, certain blood diseases, or, very rarely, parasites; inasmuch as all of these conditions except ulceration and new growth can be easily excluded or identified, it may be said that, in the absence of other aetiological factors, the presence of blood in the stools is indisputable evidence of the presence of one of these two diseases. It is remarkable, how at one stroke this conviction clears away the cobwebs from certain cases of colitis, of diarrhoea, of constipation, and, sometimes, of "indigestion." I have seen instances of each of these conditions in which the clinical picture was quite inadequate for the diagnosis without the assistance of Weber's test. Especially are the earlier stages of the new growths prone to manifest themselves by disturbances apparently functional, or by slight catarrhs, and to progress insidiously to a fatal termination, unless diagnosed by this means.

As between ulceration and new growth, the differential diagnosis should not even be attempted by analysis of the stools; it is stated that ulcers bleed only at intervals, new growths continuously, but the rule has innumerable exceptions. Cases of cirrhosis of the liver, or of portal congestion from other causes, frequently give traces of blood in the stools; the indication is of value in the treatment of such cases, in view of the frequently fatal hæmorrhages, which are apt to supervene, on these light indications. The Russian clinician Zacharin obviated the occurrence of such hæmorrhages by the use of leeches to deplete the hæmorrhoidal veins in the rectum. As regards the value of the test in typhoid fever and of suspected ulcer of the stomach, I think a sceptical attitude is at present advisable.

Mucus in the stools has been, and is, a source of much altercation, both as regards its occurrence and its significance. It is now pretty well settled that the presence of mucus is positive evidence of the existence of catarrhal inflammation, excepting only the external coating of mucus which accompanies the hardened scybala of constipation. As to the origin of the mucus, there is, likewise, no room for doubt that mucous masses of any size are always derived from the colon, while mucus formed in the small gut is certainly destroyed beyond the possibility of recognition during its passage. Only in case of very hurried passage of the intestinal contents, as in the diarrhoea of typhoid, is it possible to identify the mucus derived from the small intestine, in the form of numerous very small, semi-transparent globules suspended in the semi-fluid fæcal mass.

The cellular contents of the masses of mucus is very variable; as a rule they contain epithelial cells in an advanced stage of fatty degeneration, generally arranged in parallel fashion and much elongated, but from the number and condition of these cells, no conclusions can be drawn. Different specimens of mucus from the same stool, or from different stools of the same person vary enormously in their cellular contents. Certainly, the statement in Ewald's textbook, that mucus from the small gut is rich in cells, that from the colon poor in them, is misleading. The number of leucocytes also varies largely, but there are almost invariably many less than the epithelia. If present in very large numbers,

even though absent in the other parts of the stool, they warrant a suspicion of ulceration.

The occurrence of an enteritis membranacea of purely nervous origin can now no longer be admitted, except as an excessive rarity (Combé); such cases are almost invariably merely the paroxysmal exacerbations of chronic mucous catarrhs, in which careful examination of the stool during the intervals will disclose the presence of mucus. Indeed, all cases of mucous colitis manifest a remarkable variability in the mucous content of the fæces. As for the detection of mucus, it generally suffices to examine the stool on a plate of glass; vegetable remnants, which may deceive the inexperienced, are at once differentiated by a microscopical examination after the addition of acetic acid. It may be well to categorically negative a few of the statements which are commonly met with, regarding the interpretation of mucus in the fæces:

1. Absence, or poverty, of epithelia does not argue for a neurotic process, colica mucosa; conversely, the latter condition is frequently accompanied by large numbers of epithelia; 2. bilirubin and semi-digested cells accompanying mucus are no evidence of origin from the small gut; 3. the number of epithelial cells and of leucocytes accompanying the mucus is a very uncertain index of the grade of catarrh.

As regards the negative diagnosis of catarrhal conditions of the small intestine from the absence of mucus in the stools, it must be stigmatized, to say the least, as rash. It is no unusual thing at autopsy to find the contents of the jejunum loaded down with mucus, when the fæcal masses in the rectum show not a trace of it. At least I have several times had that experience.

Epithelia are recognized by the addition of salt solution, or, better, of strong acetic acid to a particle of fæces. They present every degree of degenerative change. In cases of cholera, caustic poisoning, and intussusception, they are present in enormous numbers. They also accompany certain obscure forms of intestinal disturbance, the so called desquamative catarrhs. In moderate amount, they have no diagnostic significance.

The presence or absence of bile should be determined chemically in every stool, inasmuch as stools of normal color may be bile free, and colorless stools may be rich in bile pigment, which has been reduced to leucourobilin; moreover, in all cases of jaundice, whether intrahepatic or extrahepatic, and after all operations for obstructive jaundice, it is essential to determine whether any bile is entering the intestine. Schmidt and, following him, Steele recommend that the presence of urobilin and of bilirubin should be tested for by rubbing up a small mass of fæces with a saturated solution of mercuric bichloride, which is then allowed to stand for twenty-four hours; if it turns brick red, urobilin is present, if it contains any green particles, the latter are evidence of the presence of bilirubin. The test was originally devised by A. Schmidt, and its usefulness is at once obvious. All normal stools contain urobilin; its absence indicates obstruction to the flow of bile; bilirubin in the stools is, as a rule, evidence of a very hurried passage of the intestinal contents, which does not give time for the reduction of the bilirubin to its end

grosser diarrhea can may also be due to the failure of collection apparatus, or to accident.

Unfortunately, the stool is not always reliable, and frequently fails us just in those cases where it is of enormous importance. I have seen a number of cases of acute colitis and of cases with partial ileostomy in the flow of bile in which the stools showed normal sequence to the Schmidt test, and yet gave positive pictures of the presence of bile by the following method: A portion of stool of the size of a hazelnut is rolled on a piece of white one per cent. acid washed, sterile cotton band for a few minutes over a warm water, in order to extract the bile; the mucus and albumin content is filtered, and into it are added to form a few drops of a five per cent. aqueous iron pyrophosphate solution in alcohol saturated with any one of the five greenish ammonium salts. If any bile is present, the mixture at once assumes a green coloration, the intensity of which varies with the amount of pigment present in the stool. The test may be brought still more closely to bearing by the use of the following procedure: The whole specimen takes ten minutes to dry in alcohol washed, sterilized glass, and the residue then kept covered by the Schmidt test. In a case was demonstrated to me and referred to the laboratory of the German Laboratory at New York, who was examining the fat digestion of a woman with a long history of the following condition: The stool was collected and enter the intestine, as was proved by finding in the stools colored powder mixed by this route. The stools, however, gave a positive reaction to the Schmidt test, but were negative to the above. The test does not detect the presence of bilirubin, but this is hardly to be wondered at, inasmuch as the evidence of intestinal

disturbances are easily detected in the microscopic examination. All cases of chronic or recurrent diarrhea should be examined for amebæ; a series of cases reported from Germany, and from the Johns Hopkins Hospital, and the observation of the German Laboratory in the German Hospital in New York, have indeed me that the endemic cases

are by no means infrequent. Inasmuch as the diagnosis must be conducted along their identification is a matter of the greatest importance. The technique of the examination depends on the method of collection, but is by no means as complicated as is generally supposed.

The important thing to remember is that the stool is alive and moving under the microscope, as they rapidly disintegrate when incapable of recognition in a warm chamber, which is ribbed, is quite unnecessary; I within half an hour from the body, or are placed in a container within six hours, the

integrity. The important thing to remember is that everything else is of the nature of a solution of the various components of digestion. The importance of the examination of the stool is not only in the diagnosis of abnormal conditions, but also in the treatment of the same. The

The motor activity is, as in the case of the stomach, an extremely important factor. Not only the completeness of digestion, and the absorption of nourishment, but the production of so called sterco-oral ulcers, hemorrhoids, and other organic lesions, and certain types of so called autointoxication, depend on the length of time during which the feces are retained by the body. There is at present only one test for the motor activity, namely, the time of passage from mouth to anus of an easily identifiable substance such as powdered carmine. It is found to reappear in the stool, in cases not troubled with diarrhea, at periods varying from one to several days. In the latter case, it is well, in order to subtract the element of rectal atony, to give daily suppositories or low enemas, in order to determine the period of passage uninfluenced by stagnation in the lowest segment. One finds, clinically, in almost all of the cases in which the passage takes forty-eight hours or more, that there is a concomitant gastric atony, as manifested, for example, by the succussion test. Nor is this all; such cases manifest a peculiar toleration for watery enemas, which they tend to accept in far larger quantities, and to retain far longer than do normal individuals. These two observations, which are simply clinical tests of gastric and of colon atony, I have found unconsciously substantiated in a statement made by Strauss in his *Diätbehandlung Magenkranker*: "In such cases (gastric motor insufficiency) one often finds that enemas of one or two litres (one to two quarts) given for cleansing purposes, are retained by the patients, so that cases of gastric atony offer the best material for the use of nutrient enemas." The observation is correct, although the interdependence of these two phenomena was not correctly interpreted by him, being attributed to the "thirst of the tissues." It is probable that the cases of spastic constipation (Fleiner) do not give these signs. A crying need of functional diagnosis is the determination of the length of passage through the small gut alone; unfortunately this is still a pium desiderium.

The chemical functional diagnosis must determine, primarily, the total dry residue; the amount of fats present in the stools, and the degree of fat splitting; the degree of carbohydrate and proteid absorption, and the existence of soluble albumen. These, together with certain special tests for pancreatic digestion, comprise the sum total of the information which the clinician of today can gather from the stools. Inasmuch as I propose to take the carbohydrates and their digestion as the type of the deductions which may be drawn from these examinations, I shall simply indicate the character of the other tests.

With the methods today available in hospital or clinical laboratories, only an approximate evaluation of the degree of digestion of the various dietary components is possible; moreover, more than this is unnecessary, since only large differences have any clinical application. For metabolism experiments, finer methods are of course a necessity.

Very fatty stools are microscopically evident by their whitish color and sheen. Microscopically, the field is almost usurped by the needle like crystals, the amorphous soap masses, and the globules of neutral fat; from the relative amounts, it is possible

to obtain some sort of an idea of the activity of the fat splitting ferment. An actual qualitative analysis of the end products of fat digestion is very tedious, and difficult in an ordinary clinical laboratory; nor are the results of corresponding value. It is ordinarily stated in the textbooks that the activity of the pancreas may be judged of from the amount of fat splitting which occurs. Unfortunately, this is not the case and it is entirely unjustifiable to draw any, except functional deductions, from the fats in the stools. On the other hand, these functional deductions are often of importance in indicating restriction or increase of the fats in the dietary. The proteids in the diet used by me, or that of Schmidt, should leave little residue. The microscopical field should at most show an occasional semidigested muscle fragment, in which the striations are still barely perceptible. If there are macroscopic remnants of muscle, digestion has been imperfect in some particular; of the many theoretically possible causal factors of this condition, only the pancreatic and gastric functions need be considered.

If there is complete absence of hydrochloric acid in the stomach, anacidity (achylia), or subacidity, the connective tissue which binds together the parenchyma of the tissues is not dissolved, nor can this function be assumed by any other part of the intestinal tract; hence, in achylia large masses of coherent, undigested muscle residue are passed, but the presence of the large numbers of connective tissue fibres in the stool gives it the earmark of gastric, and not of intestinal disease. Absence of trypsin, as in far advanced pancreatic disease, also leads to failure of proteid digestion, but, unfortunately, minor grades of pancreatic disease fail to manifest themselves. There are two experimental tests of pancreatic efficiency, the Sahli glutoid test, and the Schmidt test for digestion of nuclei; neither is unequivocal. Intestinal diarrhoea, of course, leads to failure to digest proteids, if only by abstracting the necessary element of time. Soluble albumin is tested for in the fæces by treating the filtered aqueous extract with ferrocyanide, after precipitating the nucleoproteids with acetic acid. Its presence is always pathological, but is, unfortunately, associated with very innocent as well as grave disorders; it should always arouse a suspicion of ulcer or carcinoma.

I come now to the interesting chapter of carbohydrate digestion, which may be taken as a type of the methods and the difficulties of functional diagnosis from the stools. The carbohydrates of the food are broken up by the ptyalin of the saliva, and the amylolytic ferments of the pancreatic secretion and of the succus entericus, and by the bacteria present in the intestine. Conditions which influence the amount of starch conversion are: Its solubility, the condition of its cellulose or glutinous envelope, and all those factors which control the action of the unorganized ferments and the life of the bacteria. Most important of these latter controlling factors is the degree of acidity of the intestinal contents. It is a universally admitted fact that the action of the ptyalin of the saliva is brought to a rapid close by the acidity of normal gastric digestion, while amylolysis continues uninterrupted in cases of anacidity and achylia.

It is generally assumed that the contents of the stomach as passed into the duodenum are rapidly neutralized by the bile and the intestinal juices, which tends to provide a favorable reaction for the secondary amylolysis of the pancreatic juice. Indeed, Cannon, of Harvard, in one of his recent articles in the *American Journal of Physiology* on the Motility of the Stomach, asserts that the action of the pylorus is controlled by the reaction of the duodenal contents, in such fashion that it relaxes only when the latter is neutral, thus ensuring the gradual alkalization of everything which is passed from the stomach into the duodenum.

There are, however, ample facts in evidence, which militate against this theory. In the first place, it has been shown (Vernon, Rachford, Grützner) that amylapsin is, in point of fact, capable of acting in a somewhat acid medium, especially in the presence of bile. The exact limits and optimum of reaction within which amylapsin exercises its power in the intestine have not been satisfactorily determined in the human being. It is, however, interesting to note that the conversion of starches by ferments proceeds in the stomach of the dog in spite of the presence of 0.4 per cent. of hydrochloric acid (Friedenthal). On the other hand, there is ample evidence to show that the reaction of the contents of the small gut in man on a mixed diet is predominantly acid, to the degree of 0.1 per cent. acetic acid and more. This evidence is derived from the observation of fistulæ, and the immediate examination of intestinal contents after death (Gley and Lambling). This acidity is contributed by mineral acid (hydrochloric acid), acid salts, carbon dioxide, and the organic acids due to bacterial fermentation, which certainly and regularly occurs even in the small intestine. Now it is at once apparent that the amount of hydrochloric acid secreted by the stomach must have an enormous influence in determining the reaction in the small intestine, and in thus furthering or inhibiting the activity of the ferments; there is a physiological corollary of this conception, in the fact that the carbohydrates leave the stomach very rapidly (Cannon) and lead to the production of relatively small amounts of gastric juice, and that the intestinal contents after a carbohydrate diet are much less acid in reaction than after a diet rich in fats or proteids (Moore). Moreover, the action of bacteria is also distinctly influenced by the acidity of reaction in the gut, and Schmitz has shown that it is the chief factor in influencing proteid putrefaction. On the same ground, it may be said that starch digestion by bacteria, also cellulose digestion, are largely affected by the amount of hydrochloric acid secreted in the stomach.

Another important fact which bears upon this question of reaction and starch digestion, is the gradual alteration of the contents of the cæcum and large intestine, so that the fæces, as passed, are as a rule neutral, or only slightly acid. Thus, in the large intestine there is ample opportunity for the further action of the diastatic ferments and bacterial activity. If all that has been said is summarized, it amounts to this: That the reaction of the small intestine is regularly acid, and that the amylapsin is capable of working in such a medium; but that in cases of marked hyperacidity or of hypersecretion, the acidity reaches a degree unfavorable to

there is a reservoir for fæces in line with the long arm, which is graduated. If the gas amounts to more than five c.c. for five grammes of stool, it may be regarded as excessive. The ætiology of this failure of carbohydrate digestion must then be worked out along the lines previously suggested.

Finally, as regards the test diet, it is necessary to say a word. The need of such a diet is at once apparent, since without it the microscopical and chemical tests lose much of their significance. The diet of Schmidt and Strassburger I have found entirely unadapted to American conditions, inasmuch as it is worked out on a basis of five meals a day, which is the German system, and, if reduced to three, as in Steele's articles, leads to such a grotesque breakfast as oatmeal, two eggs, two pieces of toast, and two glasses of milk. I have frequently seen it give rise to severe diarrhœas. The diet which I have adopted, and which has worked very well in a general hospital, is as follows: Breakfast, oatmeal with milk and sugar, coffee with cream, one or two eggs; lunch, bouillon, one quarter pound of meat, mashed potatoes, toast with butter, and, as dessert, jelly, omelette or icecream; supper two eggs, toast and butter, milk, and a dessert as at lunch. The diet provides ample nourishment and variety, includes all the necessary constituents in such form as to be easily identifiable in the fæces, and the amounts given may be varied to suit the taste of the patient without producing a very marked alteration in the fæces.

In closing, I must beg your indulgence for the imperfections of which I am only too conscious. I have attempted to illustrate briefly my own views and methods, and do not apologize because they differ from those described in the textbooks. I am well aware that the results are incomplete and as yet unsystematized, but this is a failing which only the accumulated results of many investigators can rectify.

163 WEST EIGHTY-SIXTH STREET.

THE DIAGNOSIS OF AFFECTIONS CHARACTERIZED BY ABDOMINAL PAIN.

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At the present time while students see surgeons opening the belly for the relief of so many affections characterized with or without pain in this region; and while the internist is so often being caused to regret that he failed to refer, for early operative treatment, a certain case of appendicitis, intestinal obstruction, or some other grave affection which at first he looked upon as a case of ordinary "dietetic or worm bellyache"; it is well for both classes of specialists, and especially so for young practitioners, to pause a moment and think of what are the real causes of this exceedingly common symptom.

With the idea, therefore, of merely enumerating the affections in which abdominal pain is a prominent symptom, the writer endeavors to present in this contribution a list, classified in such a manner as to aid in remembering such a heterogeneous col-

lection of affections, and at the same time to so group them as to facilitate an early diagnosis at the bedside. In a general way two great classes can be made: (1) The nonsurgical, or at least nonoperative, affections; and (2) the pure surgical conditions, i. e., those which positively call for surgical judgment for their proper management, and which may demand operative intervention for their relief. The lesions of the latter group are further subclassified according to the existence as collateral signs, the phenomena of shock, and of local or general peritoneal irritation, in the symptom complex. Further, as of greater or less diagnostic significance, a few groups have been arranged, based on certain inseparable, clinical, contributing, ætiological factors in a given case, which may often aid in a diagnosis by methods of exclusion.

'Tis true many affections in the list are comparatively rare, while others are exceedingly common. But it is for this reason, largely, that occasional reference to such a list may prove useful, lest the surgeon, on the one hand, may teach, as some have been so bold as to announce, that "every bellyache not directly attributable to the indigestion of green apples is caused by appendicitis"; or the medical man, who limits his study to nonsurgical affections, and, who has seen so many patients relieved of this symptom by the passage of time, or of the intestinal contents, may fail to keep in mind the surgical causes.

It is especially, however, for the benefit of students and young practitioners that the writer enumerates these affections, since few textbooks have condensed within a small space for reference such a list.

(1). Affections in which surgical treatment is either not indicated or for the relief of which immediate operative intervention is not demanded. With few exceptions the abdominal pain of these affections is not accompanied by the systematic phenomena of shock. Occasionally, however, incident to the nervous instability of extreme youth, infancy, advanced age, hysterical subjects, inherent systematic, and, especially circulatory weakness, and true nerve exhaustion; the sudden, agonizing, frequent, recurring, paroxysms of pain especially when associated with copious and pernicious vomiting, colliquative diarrhœa, and other symptoms, which of themselves are debilitating, may result in prostration. In such cases the systematic depression is rather a result than an accompanying phenomenon of the pain, appearing more gradually and later.

The general nonshocking affections of this group include: Constipation, purely acute, or acute superadded to chronic (biliousness).

Ordinary, spasmodic, or flatulent, intestinal colic. The prodromal and invasive enteralgia of certain infections and systemic diseases; notably typhoid fever, mild cases of dysentery, influenza, smallpox, measles, acute rheumatic fever, syphilis, internal or retrocedent gout Henoch's purpura, rickets, nephritis, plumbism by no means confined to lead workers. Gastric and other visceral crises of locomotor ataxia, gout, uræmia, and occasionally associated with the erythematous group of skin lesions.

Gastralgia, hyperchlorhydria, hyperchondriasis. Excessive secretory and peristaltic action incident to the administration of certain drugs; notably arsenic.

omentum, such as is likely to occur in cases of: Hernia of the inguinal, femoral, ventral, umbilical, obturator, sciatic, lumbar, or diaphragmatic variety, or of the rare form into the duodonojejunal fossa; or in any case of mechanical obstruction. (See separate heading.) Mesenteric embolism and thrombosis with sudden occlusion. Acute pancreatitis. Rupture of an aseptic gestation sac, or an ovarian cyst into the peritoneal cavity. Torsion of the pedicle of an ovarian cyst.

(E). Affections in which the pain, profound shock is synchronous and peritonitis is developed at once.

Gangrene of any structure within the peritoneal cavity; generally the gut, in cases of complete obstruction of mesenteric embolism; the appendix and biliary passages when inflamed; the testicle and ovarian cysts when their pedicles are twisted. Perforation or rupture of any intraperitoneal structure containing septic material, including the stomach, intestines, appendix, gallbladder, inflamed uterus, tubes and ovaries, inflamed urinary bladder (when rupture is intraperitoneal), mesenteric lymph glands, abscesses of the liver or spleen. Frank gastric or intestinal hæmorrhage from subperitoneal ulceration; in such cases the collapse being caused by hæmorrhage, and the peritoneal irritation incident to local reactionary phenomena with perhaps infection.

Certain inseparable contributing factors in any given case will often exclude many of the causes enumerated and in many cases aid materially in the differential diagnosis.

Age.—In children below puberty and in infants, by far the most common causes of abdominal pain are found in lesions referable to the alimentary tract, such as: Ordinary flatulent intestinal colic incident to the ingestion of food unsuitable either as to quantity or quality. Enteritis; acute constipation; intestinal parasites; dysentery; tubercular diseases of the intestines, peritonæum or mesenteric lymph glands; and the abdominal pain of measles, incident often to catarrhal enteritis of this infection. Prolapse of, and congenital malformation about, the rectum and anus. Rectal and intestinal polypi, intussusception. Inguinal retention of testicle; torsion of spermatic cord; osteoarthritis disease of the spine, hip, and sacroiliac joints; meningitis; and the bellyache associated with rickets, are other common causes. Of these only congenital malformation and rickets are confined to children.

Among the infections generally excluded by childhood are included: Addison's disease, gout, locomotor ataxia, gastralgia, hyperchlorhydria, hypochondriasis, gastric ulcer, hæmorrhoids, pancreatic disease, angina pectoris, aneurysm, spondylitis, and rheumatoid arthritis.

Lead poisoning, uremia and diabetes are rare in children. Abdominal pain due to disease of the generative organs, aside from retained testicle, torsion of the spermatic cord, and the rare ovarian cysts of children, are almost unknown until at least puberty.

Institution of the menstrual function is attended in many girls with agonizing abdominal pain, incident to antelexion and stenosis of the cervix, which in many individuals is continued monthly until pregnancy or child birth.

During advanced life, carcinoma and the chronic

affections are common. Among the causes of acute pain about or past middle life: Gallbladder disease, intestinal obstruction of volvulus, fæcal and gall-stone impaction, acute pancreatitis, the crises of tabes and gout, spondylitis deformans, and aneurysm are perhaps the most frequent.

Sex.—Aside from affections incident to the sexual apparatus in men and women, no disease is absolutely peculiar to sex.

Locomotor ataxia, duodenal ulcer, and hepatic cirrhosis are most common in men, while gastric ulcer and hysterical manifestations are almost confined to young women; and enteroptosis, floating kidney, and diastasis of the recti are more common in those who have borne children. Femoral hernia is rare in men.

Abdominal pain in early months of gestation may signify, extrauterine pregnancy, with or without rupture of the sac, abortion, displacement of the gravid uterus, or may be incident to pernicious vomiting. At any stage of pregnancy, lighting of old pelvic inflammation, torsion, or rupture of ovarian cyst, rheumatism of the uterus, miscarriage, premature or normal labor pains, distended bladder, or as a coincidence any disease mentioned above, may cause abdominal pain.

During the course of typhoid fever: Aside from the affections which may arise in any one in bed under rigid dietetic and other treatment for gastro-enteric disease abdominal pain may be caused by: Simple prodromal or invasive enteralgia. Spasmodic and flatulent colic, gaseous distention, constipation, gastritis, enterocolitis, deep ulceration, intestinal hæmorrhage. Iliac phlebitis, appendicitis, intestinal hæmorrhage or perforation; rupture of mesenteric lymph gland, peritonitis without perforation, intestinal obstruction. Splenitis, cholecystitis or cholangitis, hepatitis. Vesical distention, cystitis, epididymitis, ovaritis, ureteritis, nephritis, or perinephritis, subdiaphragmatic abscess. Pneumonia, pleuritis, and pericarditis. In pregnant women, abortion is expected. Caries of the ribs, intercostal and lumbar neuritis and neuralgia are among the causes of abdominal pain late during the disease or as a sequel.

Abdominal pain following traumatism may be the result of direct or indirect violence. The first causes contusion, rupture, laceration, or puncture of the abdominal wall, peritonæum, omentum, liver, spleen, kidney, bladder, stomach, intestines, the pregnant uterus, testicle, fracture of the pelvis or ribs, singly or as combined lesions. The significance of abdominal pain following abdominal section will be discussed subsequently in a separate contribution.

Indirect violence may result in hernia, displacement of solid viscera, particularly the liver, spleen, and gravid uterus; contusion of the spinal cord; fracture of the spine or ribs; torsion of the spermatic cord of pedicle of an ovarian cyst.

The pain of ectopic gestation, rupture of the sac of an extrauterine pregnancy or of a pyosalpinx, abortion, miscarriage, premature and normal labor; torsion of an ovarian cyst or of the spermatic cord; movable kidney, acute pancreatitis, rupture of gastric and enteric ulcers, mesenteric lymph glands, and aneurysms may result from any kind of violence, and often no assignable cause can be determined.

The cases reported in the American medical literature extend over many years, and, in some instances, are not readily accessible. It has been deemed worth while to collect all cases to which references could be found. Many of the appended reports are, however, incomplete, and some are of

doubtful aetiology. The titles, deciduoma, decidua-sarcoma, and syncytioma, are frequently employed, although the only name which fully and accurately describes these growths is chorioepithelioma. It is to be hoped that in the future all cases will be microscopically examined, and that a longer time will be permitted to elapse between the operation, if such is performed, and the report, in order that reliable statistics of the proportion of recovery and mortality can be compiled.

(1) Freeborn, *New York Journal of Gynecology and Obstetrics*, 1894, page 299. Incomplete report. History of pregnancy, hysterectomy, a small nodule on the posterior surface of the uterus, which on microscopical examination showed "deciduosa sarcoma."

(2) Williams, J. W., *Johns Hopkins Hospital Report*, iv, 9, page 1, 1895. Full blooded negress, age thirty-five, multipara, normal pregnancy with dead child, the placenta was "soft and boggy." Slight fever; on the sixteenth day a small nodule appeared in the right labium. One month post partum the tumor reached the size of a hen's egg, skin over mass necrotic, malodorous discharge, later the slough opened into the rectum; death three months post partum. Diagnosis, sloughing hematoma of vulva with sepsis. There was found a polypoid tumor of the uterus, also a nodule in the muscle of that organ, metastases in the vagina, liver, lungs, spleen, and kidney, all typical chorioepithelioma.

(3) Schultze, O. H., *Presbyterian Hospital Report*, i, page 206, 1896. A multipara, the symptoms of hæmorrhage followed an early abortion; chills; a curettage did not stop the bleeding, therefore a hysterectomy was performed; the subsequent history is unknown. The uterus was septate, in one horn a tumor, typical chorioepithelioma in type, was situated.

(4) Boldt, H. J., in Keating and Coe's *Gynecology*, 1895, page 597. Case seen in consultation, incomplete; patient, thirty-three years of age, following an abortion at the fourth month, a sanguinous discharge developed. Curettage afforded no relief, the uterus found enlarged to size of fourth month pregnancy, marked anæmia. The débris showed "deciduoma," died in a few months with signs of fluid in the chest, no autopsy.

(5) Boldt, H. J., *Postgraduate*, 1898, page 848. Patient of thirty-two, had aborted three months before, at the curettage large masses were removed. For the continued bleeding the cervix was split and a mass felt in the uterine cavity. Reported as consisting of villi and chorioepitheliomatous tissue.

(6) Davis, E. P., and Harris, H. F., *American Journal of Obstetrics*, xlii, page 1, 1900. Case II. The age was forty, four pregnancies preceding; amenorrhœa for two months, nausea, malnutrition, consequently the ovum was removed. The anæmia increased, insanity developed and death took place. The uterus proved normal, multiple brain tumors were found, also metastases in the lungs and pleura, liver, thyroid, and kidney. Their structure was typical chorioepithelioma.

(7) McDonald, W., *American Journal of Gynecology and Obstetrics*, xix, page 205, 1901. Age of the patient, thirty; tertipara; last pregnancy five months before; was supposed to have miscarried now at second month; three weeks later curetted for bleeding, again curetted one week later and "placental tissue" removed. One week after last curettage a severe hæmorrhage followed; a pedunculated vaginal tumor was noted, the os was patulous, and a conical growth projected from the fundus; death from hæmorrhage, no autopsy. The tumor tissue showed typical chorioepithelioma.

(8) Brothers, A., *American Journal of Obstetrics*, xliii, page 60, 1901. Age, twenty-four; miscarried at

eight week one year previously; menstruation was at first delayed, later metrorrhagia developed. Curettage did not stop the bleeding, therefore, the cervix was split and a small suspicious mass removed, the report on this read "myxomatous structure." Three months after, two more hæmorrhages occurred, a curetting was followed by another hæmorrhage and an hysterectomy was performed. Operative recovery, subsequent history not given. Microscopical was chorioepithelioma.

(9) Gissler, C., *Medical Council*, 1902, page 245. The report is incomplete and the pathological findings read "The débris of the last curettage was given to two pathologists, both finding epithelial cells, etc." Of no value.

(10) McMurty, L. S., *American Journal of Obstetrics*, xlv, page 712, 1902. Age, thirty-five; quartipara; last pregnancy three years previous, amenorrhœa two months, pelvic pain and then bleeding. The uterus was found posterior, fixed, with left tuboovarian mass. A curettage was performed after rigors developed, no improvement, therefore an hysterectomy three weeks later. Left pyosalpinx, uterus slightly enlarged and greatly congested. An elevated nodule projected through the endometrium near the left cornu, microscopically was reported "typical of deciduoma malignum, both syncytium and Langhans's cells participating."

(11) Baldwin, J. F., *American Journal of Obstetrics*, xlv, page 716, 1902. Incomplete, no microscopical report. Two weeks after a labor at term more "after-birth" was removed, again two to three weeks later. Baldwin found "malignant disease" and performed an hysterectomy; also removed a nodule from the peritonæum. Death a few weeks later.

(12) Ladinsky, L. J., *American Journal of Obstetrics*, xlv, page 465, 1902. Age, nineteen; primipara, after delivery of a hydatid mole repeated curettages failed to stop the bleedings. The uterus was felt enlarged, the os patulous, bilateral ovarian cystomata the size of a fist, abdominal panhysterectomy, the uterus contained a nodule of typical chorioepithelioma.

(13) Hubbard, J. C., *Boston Medical and Surgical Journal*, cxlvii, page 453, 1902. The patient's age was thirty-four; five children, two abortions, the last seven months ago, had been induced at about the sixth week; has flowed profusely, requiring frequent packing, not relieved by two curettages. The uterus was enlarged, boggy, phlebitis of the right internal saphenous, and femoral veins. Hysterectomy; the uterus contained a polyp 4 by 2 by 1 centimetres; also a small nodule in the muscle; typical chorioepithelioma. The patient was in good health six and one half months later.

(14) Tuttle, E. G., *North American Journal of Homœopathy*, xviii, page 505, 1903. Age of patient, twenty-nine; multipara, during the pregnancy suffered from night sweats, pains, and anæmia; normal labor, bled for succeeding three days, was curetted and considerable masses were removed. The report on these was "deciduosa sarcoma" ("sarcoma of mixed cell type"). Six days post partum, a hysterectomy was performed. The growth had infiltrated the right broad ligament, "the uterus was enlarged, the right cornu, surrounding the Fallopian tube, showed an area of degeneration one and one half inches in diameter," which microscopically contained syncytium and Langhans's cells. Death took place thirty-six hours after operation. This case is not convincing, fetal tissues might have been normally found in the uterus so early after labor; the pathological report is defective, and the clinical course might have been due to sepsis.

(15) Crossen, H. S., and Fisch, C., *American Gynecology*, ii, page 1, 1903. Age, forty-eight, mother of eleven children, four months previously had passed an hydatid mole; a severe hæmorrhage occurred six weeks later, another after three weeks more. The curettings

was treated as "chorionoma." The tumor was a large, fleshy, and solid mass, but in the center was a soft, spongy, and necrotic mass, the consistency of typical chorioepithelioma.

(22) Condon, A. P., *Medical Herald*, 1905, July, page 328. Full blooded Indian; age, thirty-eight, multipara, one abortion two years ago, the placenta being manually removed, irregular bleeding and loss of weight ever since. The uterus formed a hard, irregular mass half way to the umbilicus, soft boggy growths filled the entire vagina, there was a bloody mucoid expectoration. A specimen was excised and the vagina cauterized. Death in twenty days. Metastases of typical chorioepithelioma were found in the lungs, kidney, and vagina. The uterus was much involved, the right ovary cystic, and the left ovary normal.

(23) Lockhart, F. A. L., *Montreal Medical Journal*, 1905, No. 9, page 627. Age, forty-seven, primipara, four years previously was delivered of an hydatid mole, six months ago bleeding, loss of weight and strength were noted. A vaginal tumor, the size of an hen's egg, developed, the uterus was slightly enlarged, and at the side of it was a mass. The vaginal and pelvic tumors were removed, the uterus curetted. Death four months later, vaginal and labial tumors having developed and the uterus was much involved. At autopsy, tumors proved to be typical chorioepithelioma.

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(25) Metcalf, W. F., and Safford, H. E., *American Journal of Obstetrics*, 1, page 336, 1904. Age, thirty-one, nullipara, flowed after abortion and was curetted, bled every two months for the succeeding nine months. A mole was expelled and the patient again curetted, but continued to bleed. She was, therefore, curetted twice more, the last scrapings showing a malignant condition. Hysterectomy, uterus infiltrated by Langhans's cells. The patient's health fourteen months later was still good.

(26) Burrage, W. L., and Leary, T., *Surgery, Gynecology, and Obstetrics*, i, page 410, 1905. Forty-three years of age, multipara, four abortions, delivered of a hydatid mole and curetted a few hours afterward. The villi showed little proliferation of their epithelium. Four weeks later a profuse hemorrhage, the uterus enlarged and soft, packed for one week and again curetted. The scrapings showed large cells in the uterine musculature, many being degenerated in the superficial layers. The growth is apparently superficial and evidence of marked proliferation is absent. No absolute diagnosis was possible, but radical treatment was advised. Two months later, though the patient was in better condition, renewed bleeding occurred. The uterus was the size observed in a two and one half month pregnancy, movable. Hysterectomy three and one half months after the mole was removed. On the posterior wall of the uterus a tumor projected into the cavity. Typical chorioepithelioma, well two years later.

(27) Bland, P. B., *Journal of the American Medical Association*, xlv, page 1827, 1905. Age, thirty-one, multipara, last child four months before symptoms developed (six months before operation). The patient complained of pelvic pains and serous and bloody discharge; the uterus was two and one half to three times its normal size—a hard prominence was felt in the right groin. Curetted masses seeming macroscopically malignant, a complete hysterectomy was performed. Large irregular masses found on the posterior and fundal walls, depth of infiltration about three eighths inch, a thrombus in the right ovarian vein. Microscopically many villi with proliferation of the Langhans's cells and syncytium, and decidual cells were

frequency. Five curettings were done, the uterus at all of them being found enlarged and containing placenta like tissue; new formation increasing in rapidity of growth after each interference. At the end the uterus showed absence of metastases, death being due to repeated loss of blood. The tumor was typical chorioepithelioma malignum.

(23) Lockhart, F. A. L., *Montreal Medical Journal*, 1905, No. 9, page 627. Age, forty-seven, primipara, four years previously was delivered of an hydatid mole, six months ago bleeding, loss of weight and strength were noted. A vaginal tumor, the size of an hen's egg, developed, the uterus was slightly enlarged, and at the side of it was a mass. The vaginal and pelvic tumors were removed, the uterus curetted. Death four months later, vaginal and labial tumors having developed and the uterus was much involved. At autopsy, tumors proved to be typical chorioepithelioma.

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found. The illustrations depict normal villi, with fibrous stroma containing even blood capillaries. Neither the infiltration (microscopical) of the uterine wall nor the thrombus are described. Eight months later the patient was still in good health. A placental polyp might have presented both these symptoms and microscopical findings.

(28) Branson, L. H., *Journal of the American Medical Association*, xlv, page 1705, 1905. Age, thirty-one, primipara, persistent headache during pregnancy, labor at term, still born child, after the birth of the child a nodular mass, some four inches in diameter, was felt on the inner uterine surface, part of this mass removed. Post partum hæmorrhage, foul lochia (?), death three days later. The microscopical appearance is described as " . . . could not detect villi in sections examined, but recognized cloudy masses without cell walls, containing two or more nuclei, which certainly imbibed stains, in combination with clearly defined cells in different stages of proliferation and degeneration; cells of varied size with karyokinesis manifested; blood cells were present, as were also hæmorrhagic spaces. . . ." A poorly preserved portion of the placenta, remaining adherent might have given this picture; no mention of infiltration or invasion of the musculature is made, and none of the clinical data support the authors contention that this is a case of chorioepithelioma. Brain metastases were suspected because of persistent headache and dilated pupils during the course of labor!

In conclusion, I wish to thank Professor T. M. Prudden for extending to me the courtesies of his laboratory and for much valuable advice. I am also under obligation to several members of the laboratory for some of the specimens from which the illustrations are prepared.

Bibliography.

1. Marchand, F. *Monatsschrift für Geburtshilfe und Gynäkologie*, i, p. 419; also *Zeitschrift für Geburtshilfe und Gynäkologie*, xxxix, p. 173.
2. Ruge, C. Lubarsch und Ostertag's *Ergebnisse*, 1896, 3. part, p. 385.
3. Risel, W. *Ueber das maligne Chorioepitheliom und über die analogen Wucherungen in Hodenteratomen*. Leipzig, 1903.
4. Teacher. *Journal of Obstetrics and Gynecology of the British Empire*, iv, p. 2 and p. 145; also *Transactions of the Obstetrical Society of London*, xlv, p. 237.
5. Münzer, M. *Zentralblatt für allgemeine Pathologie und pathologische Anatomie*, xiii, p. 197.
6. Ladinsky, L. J. *American Journal of Obstetrics*, xlv, p. 465.
7. Findley, P. *Journal of the American Medical Association*, xliii, p. 1351.
8. Hofbauer, J. *Grundzüge einer Biologie der menschlichen Plazenta*, 1905.
9. Schmorl. *Verhandlungen der deutschen pathologischen Gesellschaft*, Breslau, 1904, p. 1; also *Centralblatt für Gynäkologie*, 1905, p. 120.
10. Veit, J. *Zeitschrift für Geburtshilfe und Gynäkologie*, xlv, p. 466.
- 10a. Scholten, R., and Veit, J. *Zeitschrift für Geburtshilfe und Gynäkologie*, xlix, p. 210.
11. Pick, L. *Berliner klinische Wochenschrift*, 1897, p. 1069 and p. 1097.
12. Salowij and Krzyzkowski. *Monatsschrift für Geburtshilfe und Gynäkologie*, xii, p. 15.
13. Storch. See Zweifel's *Lehrbuch der Geburtshilfe*, p. 257, 1889.
14. Schmorl. *Verhandlungen der Gesellschaft der Naturforscher und Aerzte*, 1897, ii, 2, pp. 21 and 111.
15. Vassmer, W. *Pathologisch-anatomische Arbeiten. Festschrift für Orth*, p. 237, 1903. Other cases are those of Ahlfeld, F., *Monatsschrift für Geburtshilfe und Gynäkologie*, i, p. 209; see also Marchand, F., *ibidem*, p. 409, Case I; Hinz, *Zeitschrift für Geburtshilfe und Gynäkologie*, lii, p. 97.
16. Freund, W. A., and von Recklinghausen, *Zentralblatt für Gynäkologie*, xiii, p. 690; Matwejew, G. F., and Selow, W. M., *ibidem*, 1902, p. 206; Croon, J. H., *ibidem*, 1896, p. 110.
17. Hottelmann, K. *Hegar's Beiträge*, viii, p. 404, 1904. Other cases are: Gottschall, P., *Hegar's Beiträge*, iv, p. 331, 1901; Schmorl, *ibidem*, p. 138, 1900.
18. Fleischmann, C. *Monatsschrift für Geburtshilfe und Gynäkologie*, viii, p. 415, 1903, xvi, p. 353, 1905.
19. Krell. *Zeitschrift für Geburtshilfe und Gynäkologie*, xi, p. 388, 1900.
20. Reeb, M. *Archiv für Gynäkologie*, lxxi, p. 379, 1904. Other cases after uterine polyp are: Apic' and Andorff, L., *ibidem*, i, p. 511, 1895; Freund, H. W., *Zeitschrift für Geburtshilfe und Gynäkologie*, xiv, p. 161, 1896; Fränkel, E., *Volkmann's klinische Vorträge*, new series, No. 180 (*Gynäkologie* No. 67), 1897; Krebs, *loc. cit.* under 19; von Kahlen, C., *Zentralblatt für allgemeine Pathologie und pathologische Anatomie*, ii, p. 1 and p. 51, 1891.
21. Sandberg. See *Review of American Literature*, No. 10.
22. Schlagenhauser, F. *Wiener klinische Wochenschrift*, xii, p. 486, Case II, 1899.
23. Patellani, S. *Zentralblatt für Gynäkologie*, 1905, p. 388.
24. *Decidual changes were noted by*: Schmorl, *Zentralblatt für Gynäkologie*, 1900, p. 1328; Holzapfel, *ibidem*, 1901, p. 1139; Risel, *loc. cit.*, p. 88, Case V; Dunger, *Ziegler's Beiträge*, xxxvii, p. 328, 1905.
25. Other cases in which recovery followed upon curettage are: Blumreich, *Zeitschrift für Geburtshilfe und Gynäkologie*; von Franqué, O., *ibidem*, xlix, p. 63, 1903; Littauer, A., *Archiv für Gynäkologie*, lxxii, p. 294, 1904; see also Risel, p. 104.
26. Marchand, F., *Monatsschrift für Geburtshilfe und Gynäkologie*, i, p. 515, 1895.
27. Noble. *American Journal of Obstetrics*, xlv, p. 289, 1902.
28. Dunger. *Loc. cit.* under 24, p. 278.
29. Purely syncytial tumors were described by: Freund, *loc. cit.* under 20; Kossmann. *Monatsschrift für Geburtshilfe und Gynäkologie*, vol. ii, 1895; Krebs, *loc. cit.* under 19.
30. Pels-Leusden, F. *Zeitschrift für Geburtshilfe und Gynäkologie*, xxxvi, p. 1, 1897.
31. Kworostansky, P. *Archiv für Gynäkologie*, lxx, p. 113, 1903.
32. Wormser, E. *ibidem*, lxix, p. 449, 1903.
33. Schickle, G. *Hegar's Beiträge*, x, p. 63, 1905.
34. Mertens, J. *Zeitschrift für Geburtshilfe und Gynäkologie*, xxx, p. 1, 1894.
35. Ruge, C. *ibidem*, xxxiii, p. 162, 1895.
36. Graefe, M. *Ruge's Festschrift, Arbeiten aus dem Gebiet der Geburtshilfe und Gynäkologie*, Berlin, p. 38, 1896.
37. Von Kahlen, C. *Zentralblatt für allgemeine Pathologie und pathologische Anatomie*, ii, pp. 1, 54, 1891.
38. Gebhard, C. *Pathologische Anatomie der weiblichen Sexualorgane*, 1899, Leipzig, p. 257.
39. Littauer, A. *Archiv für Gynäkologie*, lxxii, p. 294, 1904.
40. Ruge, C. *Zeitschrift für Geburtshilfe und Gynäkologie*, xxxviii, p. 531, 1898.
41. Newmann, J. *Monatsschrift für Geburtshilfe und Gynäkologie*, vi, pp. 17, 157.
42. Gottschalk, S. *Archiv für Gynäkologie*, xlv, p. 1, 1894.
43. Von Velits, D. *Zeitschrift für Geburtshilfe und Gynäkologie*, lii, p. 301, 1904.

6 EAST EIGHTY-FIRST STREET.

THE ROENTGEN TREATMENT OF SOME NONMALIGNANT SUPERFICIAL LESIONS.

BY CHARLES LESTER LEONARD, A. M., M. D.,
PHILADELPHIA.

A sufficient time has already elapsed for the determining of the indications for the employment of the Röntgen rays in therapeutics.

They have been demonstrated to possess peculiar and potent physical properties, which produce marked physiological effects upon diseased and normal tissue. Separate and distinct physiological

general. So far this has been realized chiefly in the treat-

eighteen years having a small goitre, which obliterated the general lines of the neck and involved all the lobes of the thyroid. It was, however, more on account of the nervous symptoms with headache and general debility that she presented herself. There was no marked exophthalmus, although the case presented some of the early symptoms of that condition. The goitre had been present for over three years. In this patient the treatment was discontinued before the complete disappearance of the tumor, the latent action of the rays being sufficient to complete the absorption, which has remained permanent with complete cessation of all

CASE IV.—A fourth case at present under treatment, although but for a short time, shows marked improvement, both in the lessening of the nervous symptoms and in the decrease of the size of the tumor. There were, however, no exophthalmic symptoms present, and the case is one of fibrocystic character.

The results obtained in leucæmia and pseudo-leucæmia, though very remarkable and showing the effect of this agent upon disease of glandular origin,

will not be considered, as they deal with more deeply situated organs. Among true skin lesions this method of treatment was first applied to those conditions which were the most resistant to ordinary treatment. Those diseases that were the more difficult to treat because they involved the hairs and hairfollicles were early the subjects of experimentation because of the depilatory action of the rays. The removal of the hairs facilitated treatment by other means, but it was soon found that a more important action could be produced upon the follicles themselves. Among some of these conditions which have yielded to treatment in my hands are sycosis, favus, ringworm, alopecia areata, and hypertrichosis. A severe case of sycosis of the upper lip yielded readily after the removal of the hair and has remained cured with a new growth of all the hair.

In alopecia areata the treatment must be purely stimulant in contradistinction to the depilatory action demanded where the hair follicles are the seat of infection. The variation in effect is therefore entirely dependent upon the strength of the dose—i. e., whether it is stimulant or severe enough to be destructive. In the treatment of lesions of this character the author has never seen atrophy of the skin, telangiectasis or depigmentation occur. In one patient, treated successfully for sarcoma of the tonsil, the treatments were necessarily severe and the beard was completely destroyed, and although it has remained away for over two and a half years there is no abnormal condition of the skin.

While lupus has yielded good results to the Finzen light treatment, the process is particularly tedious and the apparatus employed is very expensive. It is also necessary by this method to break down the skin before a cure can be effected. The advantages of the Röntgen methods are that the whole area can be treated at once and in the subcutaneous variety. It can be cured without breaking down the skin and there is always less disfigurement than after curettement.

In a case of batwing lupus with extensive ulceration on the nose, the reparative process was remarkable on account of the filling up of the ulcerated areas before cicatrization took place, while there was little scar formation. In a case of deepseated lupus of the chin, absorption and healing have taken place without the destruction of superficial tissues. This method is undoubtedly the best we possess for the treatment of this condition, which is fortunately rare in this country.

Of the other chronic persistent skin lesions that have yielded to the stimulant and alterative action of this agent, are eczemas and psoriasis, while the acute lesions of acne heal under gentle stimulation rapidly and with the avoidance of all scarring. Among the cases of eczema have been some of very long standing. A case of eczema orbiculare oris of sixteen years standing, which had been held in check by the constant application of ointment with occasional remissions in warm weather, was cured during the winter months and has remained cured for over a year. A child who had a severe eczema for seven years has been completely freed from it, while other cases of long standing have been cured under the most severe conditions.

Psoriasis is much more difficult to cure and the patient is more liable to relapses, and yet in a case

of resistant and long standing disease involving many areas on the body, a cure of many of the lesions has persisted for over two years, while relapses have taken place in the more deeply infected patches.

The immediate and radical effect produced by this agent in cases of acne vulgaris show that although the disease may be dependent upon the health and general condition of the patient, it is a local condition, which will yield rapidly to the local stimulative and alterative action of the Röntgen rays. The rapidity with which changes take place and the freedom from scarring, even where deepseated pustules are present, makes this the most efficient method of treating this very common and yet persistent form of disease. There are many other skin lesions in which this method of treatment has been employed with great efficiency and remarkable results. Keloid, though requiring a long series of treatments, yields eventually to treatment, and when it is considered that they are liable to break down and change through retrograde metamorphosis into malignant disease, as in a case recently under treatment and apparently cured, the necessity for early treatment will be realized.

This brief review of some of the skin lesions which have come under the author's observation, indicate some of the conditions in which this method of treatment can be used to advantage, with the avoidance of much of the annoyance which comes from attempting to enforce and have carefully executed the persistent series of local applications that are otherwise necessary. The results obtained show that this method has a permanent place in the therapeutics of these superficial lesions.

112 SOUTH TWENTIETH STREET.

The Average Length of Practice of the American Physician.—The necrology department of the *Journal of the American Medical Association* is probably as complete as any such department can be made. In it were recorded 2,045 deaths of physicians in the United States and Canada in 1905. There is an estimated medical population of 215,000, hence the rate of mortality is 16.36, not differing much from previous years; 14.74 in 1902; 13.73 in 1903, and 17.14 in 1904. It is astonishing that death, so unexpected in the individual, is so regular and constant in the mass. The youngest doctor reported was 23; probably there were younger men who died, but being so new in their profession their deaths were not forwarded. The oldest was 104, a fairly ripe age for a nerve racking profession. In practice the time varied from nothing to seventy-five years; there were five others who practiced over seventy years. The average length of practice is thirty-one years and one month, quite a remarkable length considering the fact that so many physicians are exposed to death, disease, exposure, and exhaustion constantly. The nerve racking character of medical practice is seen in the list of causes of death, for heart disease in various phases leads all other causes with 202 cases. Cerebral hæmorrhage is second, with 153 deaths; pneumonia, 141; tuberculosis, 102; nephritis, 100; senile debility, 80; accidents, 72; suicides, 46; typhoid fever, 41; malignant disease, 34; septicæmia, 28; appendicitis, 27; etc. It is interesting to note the methods of suicide which show that no especial difference exists when the thought of self destruction occurs. The introduction of new men into the profession is still greater than the outgo to a considerable proportion. *The Medical Times.*

I seldom have occasion to use local applications, except, of course, for definite lesions. For these some astringent dusting powder or other medication may be used, but in the case may be necessary. Equal parts of the fluid extract of hamamelis and the tincture of iodine are a combination with a wide range of usefulness. Applied locally with a camel's hair brush, it stimulates the circulation in the part, is nutritive and alterative. The fluid extract of hamamelis, in particular, appears to be of more use about

the perineum and the rectum than elsewhere about the body. I advise the patient, also, to bathe the parts frequently during the day with cold, even iced water, with or without the addition of an antiseptic, according to circumstances. When the pruritus is so intolerable as to require instant attention, I find that a solution in water of bichlorid of mercury, one part in five hundred, applied ice cold and instantly washed away with clear iced water, will give relief when other means fail. Menthol in alcoholic solution, 0.64 gramme in 30 c.c., is also useful. I have already mentioned several other local applications, but, as I have said, I seldom find it necessary to use them. Inserting the speculum or a suitable dilator will often give as immediate and as great relief.

FORT ADAMS, R. I.

Dr. Max Lewis Volk, of Central Islip, N. Y., says:

In order to treat pruritus ani logically and efficiently an inquiry into the underlying causes is of the utmost importance. Among local causes may be mentioned lice, fleas, fissures in ano, hæmorrhoids, while prominent among systemic conditions are diabetes, gout, renal disease, and senility. Sedentary habits and general debility are the cause in many cases, as well as a general neurotic tendency. Removal or amelioration of any of the above or other conditions will in many cases allay the itching and so dispense with the uncertain local treatment. Relieve constipation by mild cathartics and by the ingestion of food leaving more residue; but be careful not to produce diarrhœa which may aggravate the condition. Dieting may be of value; as diminishing the ingestion of carbohydrates and increasing that of fruits and vegetables. All stimulants should be avoided, as tea, coffee, alcohol, tobacco, as well as any drug which may cause pruritus, like opium.

The administration of tonics like arsenic, quinine, cod liver oil, nux vomica, or other bitter tonics, is advisable, especially in old and debilitated subjects. Bathing, outdoor exercise, ingestion of plenty of water, are all important accessories in the treatment. An important adjunct to the treatment of the general condition of the patient is the local treatment.

Absolute cleanliness of the parts is essential. Rough underclothing as well as the use of coarse paper at stool should be avoided. In mild cases the following routine will often prove effective in bringing about relief: About twice or three times a day the patient sits over a basin of very hot water and sops it on the parts. The skin is then patted dry, and either calomel and starch powder dusted on, or preferably Bulkley's antipruritic powder, which is prepared by rubbing together one drachm each of camphor and chloral till they are liquefied, and adding this to one ounce of starch. In addition to this a solution of sodium bicarbonate may be occasionally applied.

For the more obstinate cases the following procedure will prove advantageous: The parts are thoroughly cleansed, and dried, and carbolic acid applied in the form of a lotion or an ointment. This is repeated twice a day. The lotion is best made of one to two drachms of carbolic acid and of oleum gossypii seminis up to three ounces. If the ointment is preferred, it is best made by mixing one half to one drachm of carbolic acid with cold cream, of the lat-

ter sufficient to make four ounces. In either of the two forms it is applied locally once or twice daily. If used in the form of a lotion the following powder may advantageously be applied in the interval:

R $\frac{1}{2}$ drachm. R. 15 grains.
Amyli, an 0.5 ounce.

In the use of carbolic acid great care should be taken lest poisoning will occur if applied to too large an area, or when excoriations are present.

In very severe and obstinate instances corresponding measures must be taken. One of the best remedies we have for meeting such cases is silver nitrate, in proportion of about fifteen grains to an ounce of distilled water, painted on the parts with a camel's hair brush, after having applied a four per cent. cocaine solution to allay the pain of the silver nitrate. Some sedative is usually necessary in these severe cases for the accompanying insomnia. Tablets containing potassium bromide and cannabis indica, ten grains and 0.1 grain respectively, will usually answer the purpose. From one to four tablets are taken at bed time. If necessary opium may be given, but beware of the opium habit. The same is true of cocaine; it produces only temporary relief and the habit may be incurred.

If eczema is present the usual treatment for that disease should be instituted. After all these measures have failed, the application of the Pacquelin cautery may be very beneficial. Of course in case of hæmorrhoids, fissure, or prolapse, the treatment is entirely surgical.

Dr. B. W. Green, of La Aurora, Puebla, Mexico, writes:

Pruritus ani has many causes, hence we must have various methods of treatment.

As a predisposing cause may be mentioned anything which will produce either a local or a general debility. Exciting causes include: Hæmorrhoids (all forms), polypi, fissures, ulcers, fistulæ, tight or spasmodic sphincter muscle, proctitis (all forms), syphilis, pediculi, ascarides, foreign bodies, cancer, eczema, constipation, inverted hairs (not an uncommon cause), and vaginal discharges. We sometimes see the condition in persons who are careless regarding the toilet of the anus. It is further observed as a part of a general pruritic condition which we see in diseases of faulty metabolism. Diabetes furnishes a good example of this class of diseases.

Of course the ideal treatment in any case is to find the cause and remove it. We often fail to ascertain the cause, and very often the patient will not consent to have it removed after we have ascertained its causation.

I begin by making an ocular examination of the parts by means of a speculum and an electric light, and make a thorough search for a fissure, fistula, ulcer, etc. If either of these are found they are thoroughly swabbed with pure carbolic acid; then the excess of acid is neutralized by alcohol. This never fails to stop the intense itching for a considerable time, and if the treatment is repeated once or twice a week a respectable number of cases of fissure, ulcer, and fistula with the accompanying pruritus will be cured. In inveterate cases I do not hesitate to administer the acid alcohol treatment to the

above, which is caused by the itching from the internal solution, or by spontaneous hemorrhage.

After the patient has had the first week almost uneventful, I give them three more of the acid alcohol solution. These three weeks are usually safe for the patient. The patient is instructed to use these every night the first thing after retiring. When they can insert the large size dilator, they are told to use this only, insert every night and let it remain for one half hour. Continue to so use it for thirty days, then begin to intermit treatment.

When they withdraw the dilator they have to apply the following salve to the affected parts:

	gr. iv;
	gr. iii;
Acid carbolici,	3ss;
Acid borici,	aa
Calomel	gr. x;
Unguentum zinci oxid.	q. s. 3j.

When we are unable to ferret out the cause in a particular case, we can do much by keeping the health of the patient. Hot fomentations of a saturated solution of boracic acid, applied with a gauze, are very valuable. They should be applied as hot as the patient can tolerate it. They keep the parts moist and in heat we have one of the best of antipruritics. One application will often relieve for several hours. Repeat them as often as itching de-

velops. Here I want to say it is well in just such cases to dilate the sphincter muscle of the rectum by the use of the graduated dilators as explained. I have cured several bad cases by means of dilatation alone. How or why it cures I am unable to explain. For those cases caused by a tight or spasmodic sphincter, the dilatation treatment is the best.

When we examine closely for foreign bodies, and should we find either to be the cause, we can offer prompt relief and a cure to our patient. If we obtain a history of syphilis, specific treatment is indicated. If we obtain a history of syphilis are sometimes greatly improved by specific treatment.

All cases require patience, and no single treatment is suitable for all cases.

German Wentsch, of Newark, N. J., re-

sponds to the following communication:

I have had several cases of hemorrhoids, and have found that the best treatment is to use the graduated dilators as explained. I have cured several bad cases by means of dilatation alone. How or why it cures I am unable to explain. For those cases caused by a tight or spasmodic sphincter, the dilatation treatment is the best.

When we examine closely for foreign bodies, and should we find either to be the cause, we can offer prompt relief and a cure to our patient. If we obtain a history of syphilis, specific treatment is indicated. If we obtain a history of syphilis are sometimes greatly improved by specific treatment.

All cases require patience, and no single treatment is suitable for all cases.

corrected before the treatment for permanent relief at the itching can be undertaken.

While treating the patients for the cause of the pruritus they can be made comfortable by local applications to the parts to allay the itching. The excoriated parts can be protected by separating the buttocks with a piece of gauze, which absorbs the secretions, and prevents irritation while walking. Scratching with the finger nails should be strictly prohibited, as the scratching always induces hyperæmia and increases excoriation. Firm direct pressure over the affected area, or drawing a cloth spread with petrolatum over the affected parts, sometimes relieves itching.

The patient must have regular hours for exercise and sleep. If the itching prevents sleep eucaïne applied in the form of a salve, applied to the itching area, sometimes relieves. Keeping the patient on his back or left with the legs separated, allays the itching. All vegetations that develop should be cauterized.

The parts should be kept very clean by frequent bathing with hot water, or by taking a sitz bath, lasting from ten to fifteen minutes, because the discharges from the rectum and perspiration of the parts intensify the itching when allowed to remain about the parts.

The diet for these patients is very important. The meals must be taken at regular times, and patients should never over eat. All alcoholic drinks should be prohibited. The best food to take is bread, toast, milk, eggs, broths, fresh fish, broiled beef or mutton, rice, sago, tapioca, and fresh fruit. Starchy or highly seasoned foods, pastries, cheese, and confectionary must not be taken.

A semisolid movement of the bowels should be secured every day. The stools may be kept semisolid by giving from one to three ounces of any of the aperient waters before breakfast. If the stool becomes hard and knotty its expulsion must be aided by giving an injection into the rectum just before the stool of two ounces of olive oil.

The local treatment is very important, and I insist upon the patient continuing under treatment from three to six months, coming to my office three times a week after the first week, when he must be seen every day. I touch up the excoriations with a solution of argent. nit. four per cent. in the rectum, and from eight to twenty-five per cent. around anus and buttocks; then I spread ung. hydrarg. nit. on a piece of gauze covered with a piece of oil of silk and protect with a T bandage, this to be left on during the day. If the full strength of ung. hydrarg. nit. irritates too much, it can be brought down to fifty per cent. by the addition of lanolin. The patient should wash the parts carefully at night, cleansing away all ointment applied in the morning, and apply the following ointment:

R. Hydrarg.	gr. x;
Unguentum	3ss;
	3j.

In the morning patient bathes again and applies ung. hydrarg. nit., or alternates with an ointment consisting of

R. Hydrarg.	grs. x;
	3j.

(To be continued.)

Therapeutical Notes.

Treatment of Plantar Hyperidrosis.—A Russian military physician, having employed formalin in 120 cases of excessive sweating of the feet, recommends the following technics: After washing the feet with soap, an application is made upon the plantar surface by means of a shaving brush of a layer of formaldehyde solution (twenty per cent.), and the toes and dorsal surface are daubed with a weaker solution (ten per cent.). This treatment is repeated morning and evening; three or four days are generally sufficient, or four to eight dressings (*Bulletin général de thérapeutique*, March 30, 1906). (The above solutions probably refer to the official solution, diluted with four or nine parts of water.)

On the Relation of Vitiligo and Syphilis.—Vitiligo has been supposed by many authors to be frequently, if not always, associated with syphilis; Pierre Marie in particular has been convinced of this association by his experience with tabetics and the frequency with which vitiligo is observed in these cases. Thibierge combats this view, and adduces in support of his opinion three remarkable cases in which vitiligo developed from one to three years before the contraction of syphilis, so that these cases could hardly have been syphilitic at the time of development of vitiligo. Vitiligo cannot, therefore, be considered a sign of syphilis; but this may be one of the causes, probably by the intermediary of the nervous system, which is so frequently affected in syphilis. Thibierge has seen vitiligo commence apparently in the site of ulcerated syphilitic lesions, and become generalized from this initial patch. Distinction must be made between the leucoderma syphiliticum, which is really a pigmentary syphilide, occurring usually early in the disease, and probably occupying the position of earlier manifestations (such as roseola) and vitiligo, which has no such precursors.—*Annales de dermatologie et de syphilologie*, through the *British Journal of Dermatology*.

Blistering in Pneumonia.—Clinical experience must be the final court of appeal to decide the question of the utility or harmfulness of vesicatories in the treatment of pneumonia, according to the dictum of M. P. Sepet in *Marseille médicale*, October 1, 1905. He concludes as follows: (1) In all patients treated by the blistering, there was observed an undeniable sedation of painful sensation. (2) In three of the cases there was noted precocious defervescence (early crisis). (3) The mortality rate was ten out of forty-five (twenty-two per cent.), whereas there were nine deaths out of thirty-seven subjected to other methods of treatment (twenty-four per cent.). (4) Inflammatory and septic complications of the blistered surface were very rare, and ordinary care was sufficient to avoid them. (5) On the part of the kidneys, the cantharidal vesication did not cause any really serious disorder. Renal involvement appeared quite as often among those not blistered as among the group subjected to this treatment. (6) No modification in the chlorides of the urine appeared under the influ-

ence of the blisters. (7) In two cases only was there noted a slight painful cystitis. Finally, while vesication evidently has a decided action upon the functional disorders, it is not responsible for all the bad results of which it has been accused.—*Bulletin général de thérapeutique*, March 30, 1906.

The Treatment of Erysipelas by the Serum of Convalescents of This Affection.—L. Formaco (*Il Policlinico*, July, 1905) states that the injection of the serum of a convalescent from erysipelas, exercises a favorable action upon the evolution of this disease. This is manifested by a notable amelioration of the general condition; and the temperature also may be influenced, although the local process is not in any way modified. The convalescent blood serum does not possess a bactericidal power with regard to the streptococcus, although it may diminish its virulence. It does exhibit an agglutinating power towards streptococci, which have been isolated from a case of erysipelas; and also, though to a very limited and variable degree, towards streptococci coming from an inflamed throat (angina). Serum from normal blood, physiological serum, does not exercise any influence upon the course of erysipelas. Blood serum taken from the sick person himself, which has been reinjected after being heated to a temperature of 55° C., however, shows itself to be in its effects upon the general condition of the patients, identical with the serum of convalescents.

Pachydermia Laryngis.—E. Baumgarten recommends:

- | | | |
|---------------------------------|-------|--------|
| B. Acidi salicylici, | 10.00 | parts; |
| Alcoholis (90 per cent.), | 10. | parts; |
| Glycerini, | 2 | parts. |
- M. For local application.

Archives internationales de laryngologie et d'otologie, 1905, No. 6, through *Prager medizinische Wochenschrift*, February 22, 1906.

Sodium Salicylate and Erysipelas.—At a recent meeting of the Société de biologie, Lortat-Jakob and Vitry, reported the results of experiments to show the preventive action of sodium salicylate against the streptococcus. In their series of observations they succeeded by intravenous injections of small doses of sodium salicylate in notably increasing the resistance of rabbits to consecutive inoculations with the streptococcus. After using a strong culture, which killed a control animal in three days, the animals experimented upon lived five days. Following an injection of moderate virulence, there was in the latter group no local result, whereas in control animals a typical erysipelas developed, with death in six days. The protected animals survived.—*Le Progrès médical*, March 31, 1906.

Pernicious Anæmia Successfully Treated with Radiotherapy and Injections of Antitoxine.—Louis Renon and Leon Tixier, in a report to the Société médicale des hôpitaux (*Bulletin et mémoire de la société médicale*, March 15, 1906), give the details of a very interesting case of a woman, sixty-eight years of age, who for five or six years had been gradually becoming more and more anæmic. She had persistent diarrhœa for seven

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THE CALIFORNIA CATASTROPHE.

It may be doubted if ever before in the world's history destruction, bodily suffering, and the grim prospect of additional horrors to come have so suddenly and on so great a scale visited human beings as in San Francisco last week. Though the immediate loss of life was greater at the time of the terrible Lisbon earthquake and at that of the volcanic burial of Pompeii, there can hardly have been the protracted torture that in California is not yet ended. Accustomed as the people of San Francisco are to minor seismic disturbances, it is not to be wondered at that when they were suddenly awakened at an early morning hour by such a terrific earthquake as this one, they fled precipitately to the open streets, clad for the most part only in night dress. In their stupefaction they were overtaken by another horror, that of one of the most extensive conflagrations of all times, one that they were powerless to combat with any approach to efficiency and one that speedily cut them off from every avenue of escape.

Too scantily clothed to withstand the cold nights, virtually deprived of food and, worse yet, of water, and with no immediate chance of relief, their homes gone, their stores consumed, and the very sewers incapacitated, 300,000 people or more have had to face unheard of dangers and hardships for many days already, after having survived the earthquake and the fire. Men, women, and children alike, the sick and the well, the weak and the strong, have had to encounter continual suffering, and many a woman has

gone through the pains and perils of childbirth almost in public and with none of the appliances of civilization available for her relief.

It is true, and let us be thankful for it, that a beginning has now been made in the gigantic task of mitigating the sufferings of the afflicted people, and we may be proud of the fact that even the earliest dispatches from the scene told of the heroic devotion of the physicians of San Francisco in ministering to the needs of their fellow sufferers. Besides that, relief trains were speedily started on their way to the scene of devastation, bearing physicians, nurses, and medical supplies, and the surgeon general of the army has drawn to the utmost on the national resources for the aid of the afflicted. Medical relief has been afforded promptly and in full measure, but it will necessarily have to be continued for a considerable time to come, perhaps meeting with increasing demands, for sanitation will be more and more a necessity as the duration of the abnormal conditions is protracted.

OUR SAN FRANCISCO BRETHREN.

In another article we have spoken with admiration of the devotion displayed by the physicians of San Francisco in the professional care of their fellow citizens. The public should realize, however, that our brethren resident in the stricken city are in all probability sadly hampered in their efforts by an almost entire lack of even the commonest appliances required in medical practice. No less than the other inhabitants, they must have gone forth from their homes on the fateful morning in garb so scanty that they had not with them the ordinary contents of their pockets. Probably very few of them have a clinical thermometer, a hypodermic syringe, or any other of the every day articles that are well nigh necessary in the diagnosis and treatment of disease. Doubtless more or less of a stock of such instruments has been taken along on the relief trains, and the visiting physicians will of course see the propriety of leaving them when they find that their own services are no longer needed, but such a stock can hardly suffice for the many physicians of San Francisco.

In this probable dearth of simple requisites, it is to be hoped that the necessity for a supply of them has not been overlooked by those who have the measures of relief in charge. It is hardly necessary to say that to furnish them would not be merely to accommodate the physicians, for it would add immeasurably to their efficiency and thus be of incalculable benefit to all the sufferers by the extraordinary calamities

The cause of malignant tumors still baffles investigators. Protozoon parasites and bacteria have been thought to be the cause, but no one organism has been isolated which fulfills all the requirements. Recent facts concerning the behavior of the phagocytes in the presence of the bacterial cause of an infectious disease and the blood serum of the patient may assist in determining the ætiological rôle of a newly discovered organism. Doyen has isolated a coccus which he has named *Micrococcus neoformans*, and which he alleges is the cause of cancer. Jacobs and Geets (*Bulletin de l'Académie royale de médecine de Belgique*, xx, 1, 1906) have accepted this statement and have studied the opsonic power of the blood of patients suffering from cancer who have submitted to inoculation with the organism. They found that in all patients with cancer the defensive power of the individual against the *Micrococcus neoformans* was considerably diminished. For example, in cancer of the body of the uterus the opsonic index was from 0.74 to 0.8; in cancer of the cervix, from 0.51 to 0.86; in cancer of the breast, from 0.67 to 0.73; in recurrent cancer of the cervix, 0.5; in recurrent cancer of the breast, from 0.4 to 0.71; in cancer of the rectum, from 0.6 to 0.8.

Having determined that in patients with cancer the opsonic power of the serum against the supposed causative microorganism was below normal, they proceeded by injecting a substance derived from cultures of a definite age, sterilized at 60° C. and washed thoroughly to deprive them of all their toxic properties. After the injection they found that, in favorable cases, the opsonic power showed the same fluctuations that are exhibited in other infections of known bacterial origin—first, a diminution of the opsonic power, followed by a marked increase of that power, and then by a return to the original figure. When, after the injection, the opsonic power has returned to its original figure, the time has arrived for a second injection. The same fluctuations will again be observed, except that during the period of increase the opsonic power will be found to be higher than it was after the first injection. A patient in whom these phenomena are observed is one in whom the cancerous evolution seems to be arrested. Locally, the cancerous nodules are reduced in volume, the tumor appears to fade, and the inflammation of the skin subsides. The general condition becomes improved, the cachectic appearance disappears, and the pains diminish. This is the most auspicious time for surgical intervention, provided the disease has attacked an organ which may be removed. On the other hand, in a patient in whom the opsonic power is not increased after one or two injections, a continuation of the treatment will hasten an inevitably fatal termination.

Out of forty-six cases which form the basis of the paper, seven have been cured for several months, twelve have shown a lasting benefit, seven have shown a temporary result, eleven have given no result, and nine were still under treatment at the time the paper was written (January 27, 1906). This study opens a most suggestive field for investigation. The causal relation of *Micrococcus neoformans* to cancer is not accepted by all observers. But if there is any value to be assigned to the behavior of the opsonic power of the blood toward the bacterial cause of an infection, these observations indicate that the organism in question plays at least an important part in the cancerous process.

LIFE INSURANCE COMPANIES AND MEDICAL EXAMINERS.

In the corruption and dishonest greed revealed in the insurance exposures of the past year it is worthy of note that the medical officers and examiners of the companies have come out of the investigation with clean hands and untar-

nished reputations. It would thus appear that in the complicated organization of the large life insurance companies their medical departments at least have been honestly and efficiently conducted. For them there is no word of criticism or blame in the report of the Armstrong committee to the New York legislature. This on the face of it might be taken to indicate a greater degree of disinterestedness and probity in medical men, and less proneness to the moral obliquity and devious methods of the men who have discredited the companies with which they have been connected. It may not be an inevitable inference, however, that physicians as a class are less fallible than others, and it is possible that to them the door of opportunity was closed. It is perhaps fortunate that doctors are generally delivered from the temptation of the dizzy heights and demoralizing influences of modern finance, which we fear would seriously detract from their usefulness at the bedside. Possibly also too great a financial stake in his company might impair the judgment of the medical examiner in passing upon candidates for insurance.

In connection with the drastic overhauling in life insurance methods which is now being made, it would seem not untimely to direct attention to certain unsatisfactory features in the relations now existing between the life insurance companies and the medical profession in New York. Not many years ago the position of examiner in one of the leading companies was one of sufficient dignity and importance to be held by practising physicians of experience and reputation, and their remuneration was somewhat commensurate with the value of the professional service rendered. The change which has been made in appointing examiners has, in many instances, been to the prejudice of the physician, and is also, we believe, to the disadvantage of the real interest of the companies. Inexperienced and recent graduates in medicine whose necessities are such that they can be obtained for the salary of a clerk are now appointed, and they are trained in the company offices to accept conditions which are degrading and which make it practically impossible for the young physician ever to obtain a practice. He is often obliged to remain for long hours at the down town offices of the company or is sent about the city at the behest of the agents to keep appointments which have been made for him and as to which he is not consulted. The young insurance doctor, unless he is a man of unusual stamina, becomes gradually more and more dependent upon the meagre salary which he has fondly imagined to be only a help in tiding over the difficult period of waiting for patients; he

News Items.

NEW YORK CITY AND STATE

Change of Address.—Dr. John H. Pryor, from Saranac Lake, to 20 Linwood Avenue, Buffalo.

The American Therapeutic Society will hold its annual meeting at the New York Academy of Medicine, on Thursday, Friday and Saturday, May 3rd, 4th, and 5th. The annual banquet will be held on the evening of Friday, May 4th, at the Waldorf Astoria.

An Hour with the Old Masters of Medicine was the title of an address, illustrated by lantern slides, delivered by Dr. Joseph H. Hunt before the Medical Society of the County of Kings, under the auspices of the Medical Library Association of Brooklyn.

The German Medical Society of New York.—On Monday, April 30th, a special meeting will be held at the New York Academy of Medicine, in honor of Professor Trendelenburg. After an address by Professor Trendelenburg a number of patients will be presented by local physicians.

The Mary Fahnestock Training School for Nurses, attached to the New York Postgraduate Medical School and Hospital, held graduating exercises on Tuesday, April 17th. Diplomas were conferred upon twenty-eight nurses, by Dr. Augustus Caille, of the college faculty, and an address was delivered by Dr. Robert T. Morris.

An Out-Patient Department for the New Fordham Hospital.—The board of trustees of Bellevue and allied hospitals intends to open a department for out patients, in connection with the new Fordham Hospital. Applications for positions in this department will be received by the board, which desires to have a field as wide as possible to select from.

Personal.—On Tuesday, April 24th, Dr. William Mabon tendered his resignation as president of the State Commission in Lunacy. It is stated that he will be succeeded by Dr. Charles W. Pilgrim, of the Hudson River State Hospital. Dr. Mabon will succeed the late Dr. E. C. Dent, as superintendent of the Manhattan State Hospital, on Ward's Island.

The Board of Regents of the University of the State of New York.—When the present board of regents was chosen, Dr. Albert Vander Veer, of Albany, was elected a member of the board for one year only. It is now announced that the Legislature is to elect Dr. Vander Veer a regent of the university for the full term of eleven years, to succeed Charles S. Francis, of Troy, who has gone to Vienna as United States ambassador.

The Medical Society of the County of Suffolk, N. Y.—The following programme was arranged for the annual meeting, held at Riverhead, L. I., on Thursday, April 26th: President's Address, by Dr. W. H. Ross, Brentwood; The Milk Problem from a Sanitary Standpoint, by Dr. W. A. Baker, Islip; Procidencia Uteri, by Dr. Ralph Waldo of New York and West Hampton; Treatment of Inoperable Conditions of the Prostate, by Dr. G. Morgan Muren, Brooklyn.

The Rockefeller Institute for Medical Research.—The ceremonies attending the opening of the laboratories, at Avenue A and East Sixty-sixth Street, New York, will take place on the afternoon of Friday, May 11th, at 4 o'clock. Addresses will be made by President Charles W. Eliot, of Harvard University; President Nicholas Murray Butler, of Columbia University; Dr. William H. Welch, president of the board of directors; and Dr. L. Emmett Holt, secretary of the board of directors.

The Rochester (N. Y.) Academy of Medicine.—The programme for a meeting of the *Section in Obstetrics, Gynecology, and Pediatrics*, held on Wednesday, April 18th, included a paper on Management of Face Presentation, by Dr. John W. Whitbeck, with discussion by Dr. H. T. Williams and Dr. W. M. Brown.

The following was the order for a meeting of the *Section in Public Health and Hygiene*, held on Wednesday, April 25th: Rochester Milk Work (illustrated), by Dr. G. W. Goler.

The Buffalo Academy of Medicine. The following programme was presented at a meeting of the academy, held on Tuesday, April 24th: (a) Report of Case of Acute Peritonitis, by Dr. Nelson G. Rogers; (b) The Diagnosis of Insanity in Border Line Cases, by Dr. Sidney A. Dunham; discussion by Dr. Floyd S. Crego, Dr. James W. Putnam, Dr. Arthur W. Hurd.

A meeting of the *Section in Ophthalmology and Otorhinology*, held on Tuesday, April 24th, Dr. Ely Van De Warker, of Syracuse, read a paper on The Extinction of the Human Unfit.

Civil Service Examinations for the State and County Service.—The State Civil Service Commission announces examinations to be held on May 12, 1906, for the following positions: Assistant Sanitary Engineer, State Department of Health, \$5 a day; Consulting Sanitary Engineer, State Department of Health, \$3,000; Health Officer, Town of Long Lake, Hamilton County; Inspector, State Board of Charities, \$900 to \$1,200; Pupil Nurse, Erie County Hospital. The last day for filing applications for this examination is May 7th. Application forms and detailed information may be obtained by addressing Charles S. Fowler, Chief Examiner of the Commission, at Albany.

The Medical Society of the County of New York.—The following programme was presented at a meeting held on Monday evening, April 23rd: Report of Two Cases of Appendicitis, Presenting Mild Constitutional Symptoms with Grave Internal Conditions Discovered by Operation, by Dr. Frederick Holme Wiggin; Some Notes on Santonin Poisoning in Relation to Epilepsy, by Dr. Smith Ely Jelliffe; The Vitascope.—Moving Pictures Showing Certain Manifestations of Nervous Diseases and Illustrating Surgical Operations, by Dr. Cecil MacCoy; The Use of Moving Pictures in Teaching Diseases of the Nervous System, by Dr. Edward D. Fisher; Discussion on the Use of Moving Pictures in Medical Teaching and in Illustrating Medical and Surgical Papers.

The Centennial of the Medical Society of the County of Madison, N. Y., will be celebrated at Oneida, on Tuesday, May 8th. The society was organized on July 29, 1806, in the town of Sullivan, the officers for the first year being: President, Dr. Israel Farrell; vice-president, Dr. Jonas Fay; secretary, Dr. Elijah Pratt. It is purposed to make the coming event a most important one, and the committee intends to have, if possible, every physician in the county present accompanied by their wives and families. An effort will be made to strengthen the organization by adding a large number of names to the rolls of the society. Many physicians who have heretofore shown no interest in the medical society will be urged to attend the celebration, and from present indications the affair promises to be a grand success. The secretary of the society is Dr. George W. Miles, of Oneida, who is giving much time and labor to make the event a success.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Health Department, for the following statement of new cases and deaths reported for the two weeks ending April 21, 1906:

	April 21, 1906.		April 14, 1906.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	23	7	30	10
Smallpox	2	..	5	..
Scarlet fever	138	..	93	1
Meningitis	1,566	46	1,512	47
Scaph fever	212	18	220	10
Whooping cough	33	1	34	6
Diphtheria	312	58	228	35
Pneumonia (pneumonia)	375	188	390	180
Orchepidemic meningitis	48	29	41	30
Totals	2,509	347	2,633	302

Society Meetings for the Coming Week:

ALBANY, April 24th.

TUESDAY, May 1st.—New York Neurological Society; Buffalo Academy of Medicine; Syracuse Academy of Medicine; Albany Academy of Medicine; Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Hudson, N. J., County Medical Association (Jersey City), (annual meeting); Androscoggin, Me., County Medical Association (Lewiston); Baltimore

The Channing Home of Boston has decided that its present quarters on Chapman Street are no longer adequate, and is now considering the question of either rebuilding or

moving out of town, in the direction already taken by the Samaritan and the new Harvard Medical School.

The Essex South District (Mass.) Medical Society held a meeting at Salem, on Tuesday, April 17th. Dr. George H. Gray, of Lynn, read a paper on The Operative Treatment of Fractures Difficult of Reduction. The paper was discussed by Dr. Charles L. Scudder, of Boston, who spoke also on Stenosis of the Pylorus in Infants.

The Mortality of Connecticut.—According to the State Board of Health's *Monthly Bulletin*, for March, 1906, the total number of deaths during the month was 1,477. This was 242 more than in February, and 100 less than in March of last year, and 37 more than the average number of deaths during March for the five years preceding. The death rate was 18.2 for the large towns; for the small towns, 17.3; and for the whole State, 18.0. The deaths reported from infectious diseases were 258, being 17.4 per cent. of the total mortality.

Gifts to the Littleton (N. H.) Hospital.—In October, 1905, a new hospital was projected for Littleton, and in furtherance of this project, a gentleman, whose name was not made public, donated the sum of \$5,000, and offered to give \$1,000 a year for the next five years, provided the town would support the project. The institution has recently received from several individuals gifts aggregating \$1,250, and the management of a local manufacturing concern has announced that it will furnish and maintain a room in the hospital.

The Mortality of Boston.—The number of deaths reported to the Board of Health for the week ending April 21st, is 246, as against 214 the corresponding week last year, showing an increase of 32 deaths, and making the death rate for the week 21.56. The number of cases and deaths from infectious diseases was as follows: Diphtheria, 33 cases, 2 deaths; scarlatina, 39 cases, 2 deaths; typhoid fever, 6 cases, 1 death; measles, 156 cases, 3 deaths; tuberculosis, 48 cases, 29 deaths; smallpox, no cases, no deaths. The deaths from pneumonia were 41, whooping cough 3, heart disease 17, bronchitis 51, marasmus 7.

The Bristol North District (Mass.) Medical Society.—At a recent meeting, held at Taunton, officers were elected as follows: President, Dr. T. J. Robinson; vice-president, Dr. Elliott Washburn; secretary, Dr. R. D. Dean; treasurer, Dr. W. Y. Fox; librarian, Dr. T. F. Clark, all of Taunton; Dr. A. T. Cabot, of Boston, made a brief address. A committee of district conference to act on the matter of stamping out tuberculosis was appointed, consisting of Dr. S. D. Presbrey, Taunton; Dr. F. A. Hubbard, Taunton; Dr. H. W. Miller, Taunton; Dr. H. B. Baker, South Dighton; Dr. F. E. Tilden, North Easton; Dr. W. H. Allen, Mansfield; Dr. A. M. Rounds, Norton; Dr. W. O. Hewitt, Attleboro; Dr. H. S. Kilby, North Attleboro; Dr. W. C. Adams, East Taunton.

The Plymouth District (Mass.) Medical Society held its annual meeting at East Bridgewater, on Wednesday, April 18th. Addresses were expected from Dr. William T. Councilman, Dr. Reginald H. Fitz, Dr. Joseph H. Pratt, Dr. E. O. Otis, and Dr. F. T. Murphy, of Boston, and Dr. Alexander M. Wilson. The nominating committee made the following report: For president, Dr. Frank G. Wheatley; vice-president, Dr. F. J. Ripley; secretary and treasurer, Dr. A. C. Smith; librarian, Dr. Charles E. Lovell; reporter, Dr. A. C. Smith; commissioner of trials, Dr. Charles A. Drew; censor, Dr. Solomon Osgood; supervisors, Dr. J. E. Bacon, Dr. A. A. McKeen, Dr. N. C. King, Dr. W. P. Chisholm; councillor, Dr. A. E. Paine; nominating, Dr. F. C. Wheatley; alternates, Dr. H. W. Dudley, Dr. Solomon Osgood, Dr. J. H. Averill, Dr. N. K. Noyes; orator for 1907, Dr. M. F. Barrett. Dr. A. E. Paine is chairman of the nominating committee. The society was to try to raise \$150, so that the tuberculosis exhibition now traveling throughout the States may be brought to East Bridgewater.

BALTIMORE AND THE SOUTH

The Norfolk (Va.) Medical Society.—At a meeting held on Tuesday evening, April 17th, Dr. Richard C. Cabot, of Boston, was to deliver an address on The Renaissance of Therapeutics.

The Richmond (Va.) Academy of Medicine and Surgery.—At the last meeting of this academy, held on Tuesday, April 24th, the subject for discussion, Some Features of Abdominal Tuberculosis, was opened by Dr. W. S. Gordon.

The Kentucky Midland Medical Society held its quarterly meeting at Paris, on April 12th. Papers were read by Dr. J. B. Bullitt, of Louisville; Dr. N. M. Garrett, of Frankfort; Dr. J. W. Crenshaw, of Versailles, and Dr. R. C. Falconer, of Lexington. The next meeting will be held at Cynthiana, on Thursday, July 11.

Personal.—Dr. Hugh T. Nelson, recently an assistant surgeon in the U. S. Navy has resigned and has taken up the practice of his late father, Dr. H. T. Nelson, at Charlottesville, Virginia. Dr. Nelson was connected for a time with the house staff of the Hudson Street Hospital, New York; also with the staff of the New York Hospital.

The Southern Piedmont (Va.) Medical Society, composed of physicians from the counties of Halifax, Pittsylvania, Charlotte and Campbell, was organized at South Boston, Virginia, on Monday, April 16th. The following officers were elected: President, Dr. S. P. A. Kent, of Ingram; vice-presidents, Dr. H. B. Melvin, of Houston; Dr. W. L. Robinson, of Danville; Dr. H. B. Williams, of Gladys, and Dr. F. Gregory, of Keysville; secretary, Dr. G. A. Stover, of South Boston; treasurer, Dr. J. L. Kent, of Lynchburg. Meetings of the society are to be held quarterly, and the next meeting will be held at Lynchburg.

The Medical Department of the University of Virginia.—In our issue of October 21, 1905, we noted that Dr. George Ben. Johnston, of Richmond, had accepted the position of dean of the medical faculty of the University of Virginia, at Charlottesville, and that he would also occupy the chair of surgery in that institution. We now learn that Dr. Johnston has asked to be released from his conditional acceptance of these positions and that the board of visitors of the institution has reluctantly granted the request. Dr. Johnston will not, therefore, remove to Charlottesville, in September, 1906, as was his intention. The Richmond profession is much pleased that Dr. Johnston is to remain in that city, where he is held in high esteem.

The Montgomery County (Md.) Medical Society.—At the annual meeting, held at Rockville, on Tuesday, April 17th, officers were elected as follows: President, Dr. Edward Anderson, of Rockville; vice-president, Dr. James E. Deets, of Clarksburg; secretary-treasurer, Dr. John L. Lewis, of Bethesda. Dr. Roger Brooke was chosen to represent the society at the annual meeting in Baltimore of the Medical and Chirurgical Faculty of Maryland, with Dr. James E. Deets as alternate. Dr. Otis M. Linthicum, of Rockville, and Dr. W. French Greene, of Brookeville, were elected censors for three and one years, respectively, the other censor being Dr. William L. Lewis, of Kensington, who holds over.

A Chinese Medical Puzzle confronted the medical examining board of Missouri at its meeting at Kansas City on April 16th, when a Chinaman from St. Joseph, who was accompanied by his brother, a doctor in Kansas City, as interpreter, presented himself for examination. He could neither read nor speak English and no member of the board had any knowledge of the Chinese language. The board was in a quandary, but at last the members of the board struck on a plan. It was agreed that the Chinese applying for a license should write the answers after his brother had translated the questions into Chinese, and that the answers should be translated back into English by a Chinaman unknown to either the applicant or his brother. The result of this experiment has not yet been made public.

The Mortality of Baltimore.—The report of the health department for the week ending April 14th, at noon, showed a total of 230 deaths, as compared with 210 the corresponding week of last year, 191 in 1904, and 233 in 1903. The annual death rate in one thousand of population was: Whole, 21.53; white, 19.47; colored, 32.50. The principal causes of death were: Scarlet fever, 1; whooping cough, 4; diphtheria, 4; influenza (la grippe), 1; consumption, 24; cancer, 6; apoplexy, 17; organic heart diseases, 19; bronchitis, 4; pneumonia, 29; Bright's disease, 19; congenital debility, 14; lack of care, 4; old age, 3; suicides, 5; homicides, 2; accidents, etc., 12. The following number of cases of infectious diseases were reported, as compared with the corresponding week of last year:

4. Whither Are We Drifting in Therapeutics?
By CLARENCE H. VAUGHN.
5. Four Points of Interest in Major Anæsthesia,
By ROBERT H. M. DAWBARN.
6. Accuracy in Dietetics,
By DUDLEY ROBERTS.

2. Plastic Reconstruction of the Lower Jaw.—Beck describes the case of a woman, in which it was thought necessary to remove the whole jaw from one joint to the other. It was found that the ascending arch and portions of the horizontal arch were perfectly normal, but that the central portion of the jaw was the seat of a central necrosis with an osteomyelitic focus. A large portion of bone had been destroyed, but there were some pieces of healthy bone tissue remaining. Such an extensive operation was entirely uncalled for. The wound did not heal entirely by primary union, but only after a long time. It was now found to be necessary to create a substitute for the unnecessarily sacrificed jaw. Dr. Goslee tried with an ingenious device in the form of a plate hinged to the upper jaw to restore the function of the mouth and the shape of the chin; but all of his trials failed because there was no support and a plate could not be borne. The author therefore injected a small quantity of hard paraffin into the deepest portion in front of the ear, after having found some small spirillæ of bone, the longest about an inch, within the scarred tissue. The paraffin was well borne, and there was no reaction. Larger quantities were injected first into the side, then into the centre, and gradually to the whole extent of the missing jaw. Several months have now passed and the appearance of the patient has greatly improved, the salivation has stopped, the speech is perfectly normal, and she has resumed her work as a teacher. Even if the paraffin should diminish in size, the author thinks it will be possible to replace it with new injections. After a time an attempt will be made to form a ridge within the mouth for a plate.

3. Ileosigmoidostomy with Obliteration of the Ileocæcal Communication for the Treatment of Ulcers of the Colon.—Coffey reports a case of a patient who became so constipated that he was unable to get normal action of the bowels for several days at a time with even severe cathartics, and then only with the aid of high enemata which were used with some result. Special diet and a palliative treatment were not successful, and the patient suffered constantly from pain, which was located at the splenic flexure of the colon. An exploratory operation revealed a somewhat congested and markedly distended ascending colon, and a congested and distended colon. The appendix was not seriously diseased, but was removed, lest it might be acting as a source of irritation. Still the condition of the patient remained the same and another operation was decided upon. The ileum was cut in two near the ileocæcal valve, the two ends were turned in and an ileosigmoidostomy was performed. An ulcer was located about two inches above the point of anastomosis of the sigmoid flexure, and another about three inches higher up on the descending colon near the mesentery. The patient made an uninterrupted recovery, and felt entirely normal for nearly two months when he returned with the statement that he had a sensation as if the fecal matter passed first down deep into the pelvis and then back up into the left side, and that his bowels did not act properly. Again the abdomen was opened and it was found that the sigmoid flexure above the point of anastomosis, nearly twelve inches in length, had prolapsed to the bottom of the pelvis, making a sharp kink at the point of anastomosis, and thus directing the fecal current into the sigmoid instead of rectum. This was lifted up and sutured to the peritonæum, while the loose sigmoid flexure was shortened. Since then the bowels are acting normal.

5. Four Points of Interest in Major Anæsthesia.—Dawbarn treats four points which are of general inter-

est. **1. The use of chloroform.**—The author gives a certain method of usage, which will prevent waste, and warns against the chilling of the lungs by ether continually poured on a towel. **2. The second point** treats the use of chloroform at night in the presence of a naked flame in the room, this results in the decomposing of the chloroform and giving off nascent chlorine, which produces irritation of the air passages of the operator and assistants. The hanging up of handkerchiefs dipped in ammonia not far from the light will produce ammonium chloride, thus preventing the cause of irritation. **3. The third suggestion** is to give the anæsthetic if possible during the natural sleep. Although easy of accomplishment with chloroform and in childhood, during natural sleep, such anæsthesia, using ether, is far more difficult, almost impossible, and rarely can be done on adults at all. **4. The fourth point** is in reference to the advice to remove from the patient's mouth any plate containing artificial teeth. The plate should be removed if it is so small that if dislodged it might prove dangerous either by being swallowed or lodged in the gullet. A complete set or sets should not be taken out, as swallowing or choking is out of the question, and when removed, the cheeks and lips so fall in as to encroach, in some patients, to a serious degree on the breathing space within the mouth.

MEDICAL RECORD

1. The Condition of the Air of the New York Rapid Transit Subway.
By G. A. Soper, Ph. D., consulting sanitary engineer.
2. Memoranda Anent the Treatment of Gangrene in the Diabetic.
By HEINRICH STERN.
3. The Three Glass Catheter Test: An Improved Method for the Identification and Separation of Urethral and Bladder Detritus in Urethritis.
By ARTHUR L. WILSON.

1. The Condition of the Air of the New York Rapid Transit Subway.—G. A. Soper, Ph. D., consulting sanitary engineer, states the results of a six months' investigation of the condition of the air of the New York subway. He thinks that the subway, as a whole, is sufficiently ventilated and free from conditions injurious to health, except as to the presence of metallic dust, lack of sanitary care, and conditions inseparable from overcrowding. The lack of sanitary care can, and probably will, be corrected. If the dust is really dangerous, American ingenuity can certainly find a way to reduce it.

3. X Ray Therapy.—Rockwell indorses the opinion of William B. Coley in reference to x ray therapy: "That while the x ray exerts a powerful influence upon cancer cells of all varieties, yet it is curative only in the more superficial form of malignant disease, and should not be used in the graver and deep seated forms of cancer, except in inoperable cases or as a prophylactic after operations, as a possible though not yet proved means of avoiding recurrence." The author describes seventeen cases of which he says that they do not represent the whole number which he has seen and actually treated. These cases consisted of one melanotic sarcoma, thirty-two exposures, no benefit; one osteosarcoma, forty exposures, no benefit; two epithelioma, forty-five and forty-seven exposures, recovery in both; one Basedow's disease, sixteen exposures, no benefit; two carcinoma of the neck, twenty-four and twenty-five exposures, no benefit; one alopecia ureata twenty-two exposures, no benefit; one lupus vulgaris forty-five exposures, recovery; one lupus erythematosus thirty-six exposures, no benefit; one tuberculous gland, decided benefit; one scirrhus of the breast, postoperative, twenty-four exposures, no evidence of return after three years; one rheumatoid arthritis, twenty-four ex-

7. **Tabes Dorsalis.**—Ferrier, in his second Lumleian lecture, continues the discussion of the pathogeny of the tabetic degeneration. He is inclined to adopt the hypothesis of Thomas and Hauser, that the essential lesion of tabes is a dystrophy, similar to that produced by certain toxic agents, affecting the sensory protoneurone as a whole, and manifesting itself in degeneration both of the peripheral and central terminations, of which the intramedullary are the more vulnerable. The process, however, is not confined to the spinal protoneurone, but may affect among others the optic, sympathetic, and certain motor neurones. Tabes and general paralysis are essentially identical as regards their pathology. Both are tabetic or wasting affections—of the sensory protoneurone in the one case and of the cortical neurones in the other. **Ætiology.** The most probable pathogeny of the tabetic degeneration, is that it is the result of a toxine generated or conditioned by the syphilitic virus. But this is at present a pure hypothesis. It is not too optimistic to hope that with the progress of biochemistry we may yet discover the source of the tabetic toxine, its nature, and the means of neutralizing it and staying its ravages. Beyond palliation, or the temporary relief of urgent symptoms, no

remedy, chemical or physical, has as yet been discovered which materially influences the morbid process.

LANCET.

April 7, 1906.

1. Hepatoptosis, Glenard's Disease, and Movable Kidney.
By W. W. CHEYNE.
2. Tabes Dorsalis (*Lumleian Lectures, II*).
By D. FREED.
3. On the Value of a Serum (Doyen's) in Cases of Malignant Disease.
By A. PAINE and D. J. MORGAN.
4. A Note on the Pathology of Gangrene and Perforation of the Hollow Abdominal Viscera and "Acute Perforating Ulcer of the Stomach."
By D. DRUMMOND and R. MORRISON.
5. The Results of Operation for Radical Cure of Hernia.
By J. HUTCHINSON, JR.
6. On the Treatment of Cancer by Therapeutical Inoculations of a Bacterial Vaccine, Controlled by Measurements of the Opsonic Power of the Blood.
By C. JACOBS and V. GEETS.

1. **Glenard's Disease.**—Cheyne discusses the abnormal mobility and descent of the various abdominal viscera, paying particular attention to the liver, the kidney, the stomach, and intestines. Movable kidney is the most common and most generally recognized condition. It may occur alone or in association with mobility of other organs. The right kidney is the one usually affected. It is commonly present in cases of hepatoptosis and enteroptosis. The symptoms vary widely. The kidney itself may become congested, or intermittent hydronephrosis occur. The treatment is either to ignore the condition, to attempt in various nonoperative ways to keep the kidney in place, or to fix it in position by operation. When marked symptoms are present (Dietl's crises, hæmaturia, etc.) operative treatment is called for. The essential points in the operation are the free removal of the fatty capsule, so that the kidney can come into close apposition with the fascia over the abdominal wall, and free stripping up of the capsule of the kidney, so as to leave a raw place for adhesion. In milder cases Weir Mitchell treatment is often of service. The use of pads is usually unsatisfactory, Gallant's corsets being far better. Hepatoptosis or abnormal mobility of the liver is not at all uncommon. The symptoms are often extremely vague, there being pain all over the abdomen. The pyloric orifice of the stomach may be pressed upon or kinked, with resultant dilatation. Jaundice and gallstone colic may also arise from kinking of the bile ducts. Treatment is very difficult; it usually consists in a rest cure and the use of abdominal belts or bandages. The author has had excellent results in two cases in which operation was performed, the liver being carefully stitched into place, with subsequent use of Gallant's corsets. Enteroptosis, or descent of the alimentary tract (Glenard's disease), is not uncommon. The two most common causes are distention of the abdomen and tight lacing. Various surgical measures have been suggested, of these, in cases where there is no hepatoptosis, the most satisfactory would be shortening the gastrohepatic omentum, suturing the abdominal walls, and the subsequent use of Gallant's corsets.

3. **Doyen's Cancer Serum.**—Paine and Morgan report the results of their investigation of the treatment of cancer by means of Doyen's serum. Doyen asserts to have isolated an organism (*Micrococcus neoformans*) from malignant growths which when inoculated into animals gives rise to neoplastic growths. He regards all these growths as the result of an infection of the body with this organism, comparable to the infective processes of tuberculosis and actinomycosis. Nine patients, suffering from new growths, were treated by the authors with the vaccine and serum; in none were any beneficial effects observed. In four the injections had no apparent influence whatsoever, in two

cases the injections were followed by very severe pain; in three by severe constitutional disturbances, symptoms of a profound toxæmia. The authors also examined bacteriologically forty-four cases of new growth, and found the so called *Micrococcus neoformans* in eleven—twenty-five per cent. Injection of the same into rats and mice failed to produce any tumor formation. The organism is, in common with other micrococci, often present in malignant tumors, but not in sufficient numbers or with reasonable constancy, to be regarded as the ætiological factor in the evolution of those growths.

4. **Perforating Gastric Ulcer and Gangrene.**—Drummond and Morison state that certain of the hollow viscera—viz., the gallbladder, the vermiform appendix, the cæcum, the urinary bladder, and the stomach, are subject to gangrene followed by perforation as the result of acute intravisceral tension. As regards gastric ulcer their view briefly is that excess of hydrochloric acid in the stomach, by producing pyloric spasm and acute gastric distention in an anæmic girl, gives rise to a small gangrenous patch or patches in the stomach wall, and that subsequent digestion of the dead or devitalized patch, if all the coats are involved, leads to perforation.

6. **Hernia.**—Hutchinson has studied the results of operation for the radical cure of hernia, and arrives at the following conclusions: 1. In all but the simplest cases in children it is best to open up the canal and to narrow it by deep sutures. 2. Suturing the conjoined tendon to Poupart's ligament behind the cord by a series of interrupted sutures is probably the best method of narrowing the canal. 3. Where the conjoined tendon is deficient, in all recurrent cases, and in inguinal hernia in women, the canal should be obliterated. 4. Kangaroo tendon is admirably adapted for the suture material, silver wire being probably the worst. 5. Recurrence of the hernia *in situ* may possibly take place at any length of time after the operation, but if two years be adopted as the limit it should not occur in more than from five to eight per cent.

6. **A Bacterial Vaccine for Cancer.**—Jacobs's and Geets's researches have convinced them: (1) That we have in cancerous cachexia a specific microorganism, the *Micrococcus neoformans* of Doyen; (2) that the anticancerous sera of Doyen are wholly useless; and (3) that it is practicable to immunize the human organism by means of a series of inoculations of the *Micrococcus neoformans* vaccine, provided that these are properly controlled by examinations of the opsonic power of the blood. In all their cases treated by this method they have noted real and definite improvement.

ZENTRALBLATT FUER CHIRURGIE.

March 24, 1906.

1. The Treatment of Fractures by Bier's Method of Hyperæmia.
By C. DEUTSCHLAENDER.

1. **Treatment of Fractures by Bier's Hyperæmia.**—Deutschländer has treated ten cases of various kinds of fracture by congestion, according to Bier's method. They included fractures of an epiphysis in the elbow joint with a severe dislocation, a subtrochanteric diagonal fracture of the femur, a fracture of the middle of the femur, a supracondylar fracture just above the knee, and fractures of the tibia and of the jaw. In all the cases, function was well restored and in much shorter time than is usually the case. The author urges the more extended use of this measure.

ZENTRALBLATT FUER GYNAEKOLOGIE.

March 17, 1906.

1. The Magnet as a Diagnostic and Therapeutical Aid in Gynaecology.
By H. SELLHEIM.
2. A Calcified Fibroma of the Rectovaginal Septum as a Cause of Dystocia.
By V. RUBESKA.

P. L. V. ZIEGLER, PERI

2. The Use of Barium Chloride as a Heart Stimulant (*To be continued*). By V. F. ORLOFF.
3. A Peculiar Form of Albumin, Sometimes Found in Normal Urine. By B. I. SLOTSOFF.
4. The Action of the Salts of Nickel, Cobalt, and Copper Upon the Isolated Heart. By K. S. IVANOFF.
5. The Microbe of Syphilis. By M. S. MILMANN.

3. **Albumin in Normal Urine.**—Sloftsoff, in looking over his records of urine examinations, found about twenty cases in which the albuminuria could not be accounted for. Thus, upon adding, some acetate and upon warming slightly, a precipitate occurred, or upon overlaying the urine on Roberts's reagent, a typical albumin ring was obtained. The amount of albumin obtained in these cases ranged between 0.01 and 0.8 per cent., and the albumin appeared periodically, more often occurring in the morning urine. The specific gravity of these urines was normal. At first the author thought that these were cases of so called cyclic albuminuria, but this was found to be wrong on further examination. A more careful study of the nature of this albumin was then undertaken. It is possible, according to Sloftsoff, that the urine in these cases was contaminated with seminal fluid which accidentally entered the bladder. A careful study of the urinary sediments in these cases showed that in all of them, spermatozoa could be detected, most of them with disintegrated tails. The contamination of the urine with seminal fluid, therefore, may give rise to errors in diagnosis, and the best differential test for the detection of this peculiar form of proteid is a solution of sulphosalicylic acid which gives rise to a precipitate when seminal albumose is present, the precipitate being soluble upon the application of heat. The diagnosis becomes still more certain when spermatozoa are found in the urinary sediment.

5. **The Microbe of Syphilis.**—Milmann's article is a preliminary communication in which he discusses some recent work on the germs suspected of being the cause of syphilis, and presents some interesting observations of his own. He sums up briefly the work done on the spirochæta, and states that he investigated twenty-eight patients, of which twenty-four had distinct signs of secondary syphilis. He employed the usual technics and stained his preparations with Giemsa's method, although he found that Buchner's stain gave more satisfactory results for the detection of spirochæta. Of the twenty-four cases of undoubted syphilis, he found only five in which the spirochæta was present in the lesions examined. The most frequent site for this germ was in the condylomata. Possibly the rarity with which the germ was found was due to the fact that many of the cases had been treated with mercury. On the other hand, in many cases which had not been treated, the germ was also absent in spite of repeated examinations. In studying the preparation upon these syphilitics, Milmann noted the occurrence of a motile organism, round, ovoid, pear shaped, or conical, from two to three micra in length, which had the property of contracting and of emitting a thin flagellum or tail, and stained with great difficulty, by means of Loeffler's methyl blue, or weak carbol fushsin (Buchner), although in most cases it did not stain with the ordinary dyes. The organisms mentioned occur sometimes free, sometimes within epithelial or other tissue cells, and in some instances the cells are thickly populated with these organisms. In two preparations from buboes, they were found within large amœboid cells and were surrounded with a cyst like sac within which they continued to move. The organisms observed have nothing to do with the structure observed by Klebs, and recently described by Siegel under the name of Cytorrhcytes luis.

March 4, 1906.

1. Obstruction of the Sphymoid Flexure as the Result of

1. Obstruction of the Sphymoid Flexure as the Result of (continued). By M. S. MILMANN.
2. Barium Chloride as a Heart Stimulant. By V. F. ORLOFF.
3. The Use of Radium Rays in the Treatment of Eye Diseases. By J. C. RANKIN.

2. **The Action of Barium on the Heart.**—Orloffski examined the action of barium chloride upon the contractions of barium, and concludes as follows: Both clinical and experimental data confirm the view that barium not only does not directly stimulate the heart muscle, but, on the contrary, paralyzes it. This explains the unfavorable results obtained in its use in all cases in which the heart muscle is markedly weakened, especially in cases of myocarditis. The chief effect of barium is the contraction of the vessels. If improvement takes place after the use of barium in patients who still preserve a comparatively healthy heart muscle, this effect is not obtained through its direct stimulating action, but occurs indirectly, thanks to the contraction of the vessels. This beneficial effect is short lived, and is rapidly followed by a turn for the worse in the condition of the patient. Barium chloride, therefore, is not a cardiac stimulant in the true sense, and presents such disadvantages that its use cannot be recommended.

3. **Radium Rays in Trachoma.**—Zelenkoffski concludes as follows from a study of the radium treatment of trachoma which he employed in a number of cases: No danger whatever to the eye or to the conjunctiva is to be apprehended from an exposure of the everted lids to the action of ten milligrammes (maximum) of radium for ten minutes at a time for each lid, with intervals of two or three days between each treatment. The tube in which it is enclosed should have a curve corresponding to the shape of the lids. Radium offers a very efficient remedy in the granular stage of trachoma, when no acute catarrhal symptoms are present. The granulations disappear without leaving any scars and do not return. It is probable that the radium rays will also prove useful in the cicatricial stage of trachoma by causing the remaining granulations to disappear and by diminishing the general infiltration of the conjunctiva. When all the granulations have disappeared under the influence of radium, it is well to continue the treatment for a little while by the same method, and to finish it by the use of astringents in order to counteract the remaining infiltration of the conjunctiva.

ARCHIVES OF THE ROENTGEN RAY

April, 1906.

1. Röntgen Treatment and Röntgen Dermatitis (*To be continued*). By LEOPOLD FREUND.
2. A Plea for the More Extended Use of the X Rays as an Aid to the Diagnosis of Pulmonary Tuberculosis. By A. STANLEY GREEN.
3. Treatment of Malignant Disease by X Rays. By J. C. RANKIN.
4. An Unusual Form of Myositis Ossificans (Traumatic Myositis Ossificans) (*Concluded*). By ROBERT JONES and DAVID MORGAN.

2. **A Plea for the More Extended Use of the X Rays as an Aid to the Diagnosis of Pulmonary Tuberculosis.**—Green expresses his opinion that the x rays should be used as an aid to diagnosis, and should not replace the older method of diagnosis by symptoms and physical signs. In all doubtful cases of pulmonary tuberculosis, i. e., in cases where there is uncertainty either as to the presence or extent of the disease radiography is of great assistance. The difficulty of discovering the presence of disease in a lung where the organ on the opposite side has been attacked is admitted, yet it is in these cases that the x rays are most helpful. The author's methods of examination consist of the screen and the skiagram which he describes in detail: In the

structure of the adult mammary gland. These tumors are pure osteochondral myxosarcomas, or associated with epithelial formations, or they are sarcomas with cystic cavities lined with stratified pavement epithelium, similar to the epidermis. These may be called mixed or composite tumors, teratomata developed by embryonal, intraglandular inclusion. These tumors resemble clinically adenofibromata, or cystic adenosarcomata, having their mode of evolution, physical signs, and prognostic significance. The rare cases of cholesteatomata of the breast which have been recorded should be classified with these mixed tumors with epidermic formation.

7. **Osteoperiosteal Lipomata.**—Schwartz and Chevrier found these tumors marked by intimate connection with the skeleton. Local exostoses and secondary osseous deformities are conspicuous characteristics. The periosteal attachment may be primary or secondary and either at the diaphysis or the epiphysis of a bone. The tumors may be encapsulated or diffuse, and may be attached to organs, vessels, nerves, and joints. They may be congenital or acquired, they may originate from a variety of causes, and they may develop slowly or rapidly. They may or may not affect the general health.

8. **Congenital Luxations of the Hip.**—Le Damany concludes his investigations as follows: 1. Congenital luxation of the hip becomes an accomplished fact during the first year of life. It could be avoided if it could be foreseen, and this would be the ideal prophylaxis. 2. It is not difficult to cure it if treatment is begun during the second year of life. 3. The difficulties of reduction and of cure increase gradually with age. 4. Bloody operations may be necessary to effect a cure, and the time for such operations may be early in some cases and late in others. 5. After a certain period, variable in different individuals, luxation becomes an incurable condition.

Letters to the Editors.

SHAKESPEARE ON TUBERCULOSIS.

303 AMSTERDAM AVENUE,

NEW YORK, April 17, 1906.

To the Editors: In connection with your discussion of Shakespeare's doctors, which has been continued in the interesting communication from Dr. Kennedy in your issue of April 14th, it may not be amiss to direct attention to the poet's extraordinary knowledge of tuberculosis, which has anticipated many recent views of pathology and treatment. Internal evidence and the comparative method of study have already demonstrated that Shakespeare was a skilled poker player, and that all his dramatic works were written by Lord Bacon. Without great violence to the text it may now be shown in a similar way, and quite as convincingly, that he knew as much about tuberculosis as most authorities of the present day. The following excerpts prove that he was familiar with the infectiousness and prominent symptoms of consumption, and knew the value of fresh air and the uselessness of drugs in treatment. What can be more striking than this description of the hopeless state of the advanced consumptive?

Pale and wan.—*Comedy of Errors*, IV, 2, 30.
My lungs are wasted.—*Henry IV.*, IV, 5, 218.
All viands that I eat do seem unsavoury.—*Pericles*, II, 3, 32.
Do you not see that I am out of breath?—*Romeo and Juliet*, II, 5, 30.
A chilling sweat cools my trembling joints.—*Titus Andronicus*, II, 3, 212.
This fever that hath troubled me so long lies heavy on me.—*King John*, V, 3, 3.
My veins are chill.—*Pericles*, II, 1, 77.
Cold, fearful drops stand on my trembling flesh.—*Richard III.*, V, 3, 181.
My want of strength my sick heart shows that I must yield my body to the earth.—*Henry VI.*, V, 2, 8.
Such as hath been belch'd on by infected lungs.—*Pericles*, IV, 6, 179.

Wash this cold, congealed blood that glues my lips.—*Henry VI.*, V, 2, 37.
Thou hast quarrelled with a man for coughing in the street.—*Romeo and Juliet*, I, 1, 27.
With their spit and their sweat.—*Pericles*, III, 1, 8.
I can get no remedy against this consumption.—*Henry IV.*, I, 2, 264.
This contagious sickness.—Farewell, and physic.—*Henry VIII.*, V, 3, 26.
No other medicine, but only hope.—*Measure for Measure*, III, 1, 2.
Physic for't there is none.—*Winter's Tale*, I, 2, 200.

This despairing picture, however, is tempered by the more hopeful prognosis when incipient cases receive rational treatment. Thus:

Sickness took him that makes him gasp and stare and catch the air.—*Henry IV.*, I, 1, 2, 341.
To cough and spit.—*Pericles*, I, 2, 178.
Give him rest and strength by it.—*Henry IV.*, IV, 3, 116.
May be restored with good advice and little medicine.—*Henry IV.*, III, 1, 43.
Being brought into the open air, it would allay the burning quality of that fell poison.—*King John*, II, 1, 387.
Worse than the greatest infection that e'er was heard or read.—*Winter's Tale*, I, 2, 423.
I did commend the black-oppressing humor to the most wholesome physic of thy health-giving air.—*Love's Labor Lost*, I, 1, 236.

Further examples might be multiplied, but these are probably sufficient to indicate the possibilities of this method of studying Shakespeare for those who are interested in tuberculosis—or almost any other subject.
HENRY L. SHIVELY.

Proceedings of Societies.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of Thursday, January 4, 1906.

The President, Dr. RICHARD C. NORRIS, in the Chair.

Bilateral Malignancy of the Ovaries.—Dr. L. J. HAMMOND detailed two cases.

Malignant Tumors of the Ovary.—Dr. CHARLES C. NORRIS said that in examining the statistics regarding the frequency of malignant disease of the ovaries in comparison with benign neoplasms one was surprised at the variation in the percentage in the different clinics. Kelly had found about eight per cent. of all ovarian tumors removed by him to be malignant, while some of the German surgeons reported thirty per cent. In a series of 250 cases of malignant disease of the ovaries collected by Dr. Norris from recent literature, in which the clinical diagnosis had been confirmed by the microscope, he had found the proportion to be about eighteen per cent. In a series of 63 ovarian tumors removed at the University Hospital about sixteen plus per cent. were malignant.

Carcinoma was said to be by far the most frequent of the malignant neoplasms occurring in the ovary. This might be primary or a degeneration of a benign cyst. In ten cases observed, four were primary, four were degenerative, and in two it was impossible to form an opinion. The cystic adenocarcinoma was said to be the most frequent type. Grossly, the primary tumors were usually more solid and had thicker walls than those in which malignant degeneration had occurred. In any ovarian cyst indurated areas should be viewed with suspicion.

Sarcoma, which was a comparatively rare disease of the ovary, was said to be frequently bilateral, occurred in young women, and might be spindle celled, of mixed type, or small round celled. The spindle celled was said to be comparatively benign. Next came the mixed type, the small round celled being very malignant. Many cases primarily diagnosed as sarcoma were in reality endothelioma.

Epithelioma chorioectodermale, a malignant teratoma recently described by Pick and containing ectoderm, mesoderm, and entodermal tissue, was said to occur in young women and to resemble chorioepithelioma in its metastases.

Dr. BARTON COOKE FIRST called attention to the fact that the cases of nephrectomy followed by delivery at term.

Meeting of Thursday, February 1, 1906.

The President, Dr. WILMER KRUSEN, in the Chair.

Epithelioma of the Vulva.—Dr. GEORGE ERETY SHOEMAKER said that the case reported showed that enlarged lymphatic glands associated with an epithelioma might be inflammatory in character and not necessarily the seat of secondary malignant disease; also that it illustrated the good cosmetic results which might be obtained even in cases requiring rather extensive excision. The patient was a woman, fifty-one years of age, who had had six children, the last one born twelve years ago. Though the general health was good, the menses never reappeared after that pregnancy, stopping, therefore, at the rather unusually early age of thirty-nine years. A growth appeared three years ago on the left labium and gradually extended to the right. There was a loss of fifteen pounds in weight in the last three months. For two years there was a periodical discharge from the left side of the tumor, preceded by a period of great tenderness and swelling. The discharge was usually black or bloody, and only a few drops in quantity. At these periods of inflammation, which recurred every few weeks, one inguinal gland on the left side became swollen and tender, but never suppurated, growing smaller between the periods and losing its tenderness. There was no history of definite pain independent of these attacks of inflammation in the growth. On the patient's admission into the Presbyterian Hospital the tumor projected most prominently from the left labium, was an inch and a half high and warty in appearance. It involved the upper half of both labia majora and minora, also the lower third of the mons. The preputial folds were indurated and drawn downward, completely hiding the clitoris, which could not be demonstrated.

The operation was complete excision of the diseased areas and extirpation of lymphatic glands in both inguinal regions. The external genitalia, including the lower half of the mons, were pared off flat, leaving a wound of rounded outline with a large notch below where the normal mucous membrane rose over the external orifice of the urethra. A little above this notch was the amputated stump of the clitoris. No diseased tissue was left behind. The problem of arresting hemorrhage and closing the extensive raw surface was met by suturing the surfaces over and over with catgut, using a noncutting needle, the arterial twigs being controlled by a separate suture for each. This method gradually narrowed the raw surface, and the wound was finally closed by sliding over tissue from the groin, leaving a row of sutures in the median line which branched just above the urethra and passed down on each side over the former sites of the labia. There was some tension, and at first the limbs could not be well separated, but excellent union was finally obtained. The main lines of suture united throughout, except at the point of bifurcation, which was rapidly filled in by granulation. After healing had occurred it was found that the sliding of uninjured skin had given the parts an astonishingly normal appearance. The result was favored by the fact that the patient had lost flesh and the skin was somewhat unusually movable.

After the wound was healed, twenty-three exposures were made to the Röntgen ray. The treatments at first were given every other day and then almost daily for a month. There was considerable tanning, but very little reaction and no hyperæmia. As the wounds were healed before this treatment began, no visible changes were to be expected. The object was to reach cells which might have been undergoing changes beyond the area of visible disease. To the naked eye the growth, on section, resembled a hard papilloma. The pathological report was epithelioma of the main mass. The glands showing the greatest enlargement, however, showed inflammation, but no distinct malignant change.

The history of slow growth would tend to show that the growth was originally a papilloma and benign in type.

Dr. JOHN C. DACOSTA expressed surprise at the duration of the disease before an operation was necessary. The question arose as to whether it was an epithelioma at the beginning or a nonmalignant growth which became malignant. He recalled two cases in each of which the advance of the disease was very rapid. The operation was thorough, but the return was quite rapid. In one case in which a most thorough operation was done by his colleague the woman was apparently cured, but within nine months there was recurrence, not, however, on the vulva, but in the right ovary, which was not at all affected before. The growth in the ovary was probably as large as a large fist. In the other case the onset was rapid and the return was also rapid. Six months after the operation the woman died with cancer. Dr. DaCosta had not used the x ray.

Exfoliative Cystitis; Vesical Calculi Formed About a Ligature.—Dr. R. C. NORRIS reported two cases. The first case was an exfoliative cystitis in a married woman, thirty-two years of age, upon whom he had made a cystoscopic examination, and made the diagnosis of acute cystitis; at the end of three weeks, during which she had been under treatment, she returned with a sloughing mass blocking the urethra, and a greatly distended bladder. This mass proved to be a perfect cast of the bladder, which upon microscopical examination was found to be composed of the vesical mucosa and part of the muscular wall. The patient made an excellent recovery.

In the second case vesical calculi formed about a ligature. A married woman, thirty-two years of age, who three years previously underwent suprapubic cystotomy for cystitis, was temporarily improved, and one month later the symptoms recurred and the patient passed a large silk ligature coated with urinary salts. During the past two years she had had symptoms of marked cystitis. Upon cystoscopic examination, a stone was found suspended from the anterior wall of the bladder, in such a location that in some positions it would block the urethra. Vaginal cystotomy was done and the patient made an uninterrupted recovery.

Dr. SWITHIN CHANDLER found in a good many cases in which physicians had catheterized in supposed cystitis that it was not cystitis, but that there had been an injury to the mucous membrane of the urethra. Where prompt treatment was given it was found in many cases that the bladder did not become infected.

Relative to the suggestion that the cause of the trouble was the difference in circulation, in perhaps thirty per cent. of the cases that Dr. Chandler had examined there was, just at the opening of the ureter on the left side, an acute hyperæmia, when there was no such condition in any other part of the bladder. Regarding foreign bodies in the bladder, he had reported about two years ago two cases of such a condition. There was no formation of stone. One of them occurred in a man who was using one of the ordinary piston syringes, which slipped from him and entered the bladder. There was some irritation, which was relieved. In another case a part of a glass catheter remained in the bladder for six months. It was removed and no abnormal condition found, except the concretions around the glass.

Dr. GEORGE ERETY SHOEMAKER said that organisms were unquestionably found both in the bladder and in the urethra on a great many occasions when they were doing no harm. He thought it probable that instrumentation was responsible for many cases of bladder disturbances, as a slight traumatism would produce conditions favorable to the more virulent or active stages of the organisms present. A number of cases

Dr. DANIEL LONGAKER, reviewing four or five such cases, said they had occurred in miserable, neglected, and abused women, one half of the cases probably occurring as the result of direct violence. The treatment, he felt, called for the rarest judgment. The child required no consideration, because it was dead, and the women were in no condition to bear the Cæsarean section. He did not think the Cæsarean section could be suitable in many cases. In his four or five cases one or two of the women died after delivery by the natural way within a few hours, as the result of shock of delivery and of hæmorrhage antedating delivery.

Dr. EDWARD W. WATSON thought that anyone who had struggled with a case of concealed hæmorrhage with undilated cervix was aware that it was almost impossible to save the life of the mother or of the child. The diagnosis he considered difficult, and without visible hæmorrhage he felt that the risk of doing an unnecessary operation would be very great.

Dr. NICHOLSON explained the apparent misunderstanding of his paper by stating that he did not advise that a woman should be immediately subjected to the Cæsarean section upon the presentation of symptoms of premature separation of the placenta. In the third case, had he known that the child was deformed, and been ready to perform the Cæsarean section, he believed the life of the mother could have been saved. His meaning was that if the case presented a cervix neither obliterated nor easily dilatable, with marked symptoms of hæmorrhage, the Cæsarean section offered much better results for the woman. In this he was upheld by Hoffmeyer. He felt that rapid dilatation of the cervix sufficient to extract the child subjected the woman to as great shock as the Cæsarean section did. Also this method did not allow of control of the blood supply. He would favor a Porro operation in preference to a Sænger. In the majority of cases the women had borne a number of children, and there were present endometritis and an actual metritis, so that the uterus might as well be removed. While this might sound radical, it should be remembered that fatal hæmorrhage was being dealt with. The vast majority of patients would be delivered without recourse to such a procedure. He emphasized the diagnostic importance of the severe pains in the uterus. In literature this was regarded as the principal symptom.

Referring to Dr. Boyd's disapproval of the Cæsarean section, he thought that in dealing with hæmorrhage likely to kill the mother it was necessary to treat the bleeding, and this he believed was better done by an abdominal operation than by a Dührssen, which required more time and more skilled assistance. He pointed out that the cases did not always occur in the clinic room, with all necessary appliances at hand for a Dührssen operation. With reference to Dr. Longaker's mention of violence as a cause of the condition, he thought examination would show a diseased condition of the endometrium in the vast majority as explaining the separation of the placenta. Were direct violence the cause he thought there would be more cases. Referring to a certain proportion of Dr. Longaker's cases being fatal, he believed that the Cæsarean section would not have been any worse and would have offered a better chance for the life of the mother.

An Unusual Case of Eclampsia.—Dr. WILLIAM H. RANDLE read a paper upon puerperal eclampsia and reported a case of twin pregnancy complicated with this condition. The urine prior to the patient's admission into the hospital had been found to be free from albumin. On her admission she had had four convulsions; pulse 180, weak and irregular; respiration 40; temperature slightly elevated. She was delivered by podalic version. She remained unconscious for seventy-two hours and then gradually improved. The

writer emphasized the value of prophylactic measures in the treatment of eclampsia. Veratrum viride was to be employed cautiously; morphine to be avoided. Saline injections were considered valuable, and hypodermoclysis was said to dilute the toxins and favor elimination.

Dr. C. P. FRANKLIN said that the ophthalmologist and the obstetrician had only two points of contact—that of the blindness of eclampsia and that of ophthalmia neonatorum—and suggested that when babies were born with glasses a third point would obtain. The terms amblyopia and amaurosis were used indiscriminately by physicians, although, as understood by ophthalmologists, amblyopia was an interference with sight, not complete, and, amaurosis, complete blindness. Amblyopia occurred in conditions other than that of pregnancy, such as scarlet fever and measles. When there was albuminuria it was found most frequently in scarlet fever or measles. The cause was supposed by some authorities to be anæmia of the ophthalmic artery, but the true ætiology of eclamptic amaurosis seemed to be that the centres controlling sight were so poisoned by retained toxins that they could not perform their functions. It was found in association with the usual symptoms of brain irritation. One of the peculiarities of the condition was that in cases of eclamptic blindness the pupils were contracted. Occasionally the eyes were diverged, when the external ocular muscles were more active and pulled the eyes apart. The pupil was contracted, but responded to light stimulation. This was the direct opposite of the Argyll Robertson pupil. Eclamptic amaurosis came on rapidly and was distinguished from the blindness of chronic kidney disease by the fact that it was complete within a comparatively short time, whereas the blindness of chronic kidney disease was developed more slowly and was practically never complete. These two conditions were said to be rarely associated, and in an examination of the fundus in uræmic amaurosis there would be found nothing out of the normal. This was regarded as another proof that the whole trouble was in the brain and not in the eye itself, in contradistinction to the blindness of kidney disease. The prognosis was said to be good because the blindness improved as the albuminuria disappeared. General treatment of the albuminuria was the only remedy. Dr. Franklin had seen Dr. Randle's case in consultation. There were none but subjective symptoms to be noted, and the case was interesting from the view point of the ophthalmologist.

Dr. TALLANT said that the results in the treatment of the condition in the New England Hospital in Boston, showed that in a period of eight years the mortality was ten per cent. The treatment was largely by elimination through the bowels and skin, and as far as possible flushing of the kidneys. In only two cases was veratrum viride employed. Nitroglycerin was used only occasionally, and morphine probably not at all. The convulsions were controlled by chloroform. Saline infusions were frequent. Dr. Tallant inquired whether the proportion of urea had been noted in the case reported.

Dr. J. C. APPLEGATE agreed with the author of the paper that, while the ætiology of eclampsia was still in doubt, it was a grave manifestation of the toxæmia of pregnancy, identical with emesis gravidarum and other minor toxæmia disturbances, except in the form of manifestation, eclampsia affecting the cerebral cortical centres, while emesis, etc., when not due to reflex causes, affected other nerve centres or peripheries, hepatic insufficiency lying at the foundation, and the direct result of insufficient elimination of the excess of toxins. He did not approve of the use of turpentine in any manner in eclampsia. In his experience it had been used in one case for tympanites, after which

Miscellany.

The Local Use of Light as a Prophylactic to X Ray Effects.—When the x ray is used for therapeutic purposes, the use of concentrated light will inhibit a disagreeable degree of action. The light from a powerful searchlight requires about twice the length of time to counteract the effect of x ray exposure when used as ordinarily for treatment. When, however, exposures are made with the degree of intensity or volume of radiation employed in rapid radiography, it requires relatively a longer period of exposure to counterbalance the effects. There is probably no agent as effective in restoring the normal functional activity of the skin and deeper tissues. Where a severe dermatitis is present, substances rich in enzymes, as the white of egg, promote more rapid treating. Where sterility has followed from too frequent or prolonged exposure to x light, local treatment by light offers the greatest chance of a speedy restoration of function. It is gratifying to note this antagonistic action of light and x rays can be turned to account so as to benefit alike the patient and the operator.—*Advanced Therapeutics*, through the *Archives of the Röntgen Ray*.

Studies from the Craig Colony for Epileptics, with Biograph Illustrations.—Dr. Chase, in the Johns Hopkins Hospital Medical Society, gave a very interesting short talk on the development of photography from the wet plate days of thirty-five years ago to the complex films and cameras used in the biograph of to-day. He spoke of the advantage of the biograph both in studying and in teaching medicine, and illustrated his remarks by throwing on a screen from fifteen hundred feet of films, pictures showing in characteristic movements and attitudes, in attacks, and characteristic gaits, cases of rhythmic idiocy, double nystagmus, grand mal, Jacksonian epilepsy, status epilepticus, athetosis, hemiplegias, etc. The pictures were very clear and showed patients in attitudes and movements that the average practitioner seldom sees. Particularly interesting were the pictures showing complete attacks of epilepsy, those showing the sleeping positions of epileptics and the swaying movements of rhythmic idiots. The value of the biograph in clinical teaching was particularly emphasized, for these pictures could be thrown upon the screen to illustrate cases and for comparison at any time, whereas in most clinics such cases are not always available for exhibition and seldom for comparison.—*Bulletin of the Johns Hopkins Hospital*.

Skoda.—The University of Vienna recently celebrated the centenary of the birth of Skoda, who, with Rokitsansky, raised the reputation of the Vienna school of medicine to an unprecedented height. It is difficult to realize that with the exception of the phenomenon of succession, which was described by Hippocrates more than twenty centuries ago, the general application of physical methods to clinical examination is less than a century old. Percussion was discovered by Auenbrugger, an Austrian physician, who described the various modifications of tone in acute and chronic diseases of the lungs and heart. But though his work on percussion, entitled *Inventum novum ex percussione thoracis, ut signo, abstrusos interni pectoris morbos deteg.*, was published in Vienna in 1761, the discovery was practically disregarded until Corvisart, the celebrated body physician to the first Napoleon, snatched it from oblivion, and demonstrated its utility. It was generally practised in France and England before it was employed in Germany. Laënnec's *Traité de l'auscultation médiate* was published in 1818, when Skoda was a boy of thirteen. Laënnec strove to make pathological anatomy the basis of diagnosis and treatment. But both he and Piorry, who

published a work on percussion and auscultation in 1827, taught that the differences of tone and quality of the sounds depended on different types of disease, and that each organ produced a specific percussion sound—doctrines which, when followed to their final conclusions, produced a most complicated system. Skoda proved that physical signs depend on the physical conditions of an organ, and not directly on the type of disease, and thus—basing his conclusions on the laws of dynamics and hydrostatics—placed the methods originated by Auenbrugger on a scientific basis. His work on auscultation and percussion, published in Vienna, in 1839, is with but slight modifications the basis of the present day teaching. Skoda was long associated with Rokitsansky, and these two were among the first to insist on the interdependence of clinical medicine and pathology. Skoda would read out the notes of his case before Rokitsansky opened the body. Their lectures and demonstrations had an immense influence on European medicine and the younger school of physicians. It was a time of great intellectual vigor in Vienna, Oppolzer, Hebra, Brücke, Türck, and Arlt, being among their contemporaries. Josef Skoda was born in Pilsen on December 10, 1805, his father being a poor locksmith. At the age of twenty he moved to Vienna; in 1831 he obtained the degree of Doctor of Medicine; and in 1846 he became a professor in the university. He relinquished his duties as a teacher in 1871, and died in 1881, having for thirty years been a martyr to gout. It is of interest that though a Bohemian by birth, he was one of the first to lecture in German, the lectures being formerly delivered in Latin.—*Medical Review*.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ending April 20, 1906:

Smallpox—United States				
Places.	Date.	Cases.	Deaths.	
California—San Francisco	Mar. 31-Apr. 7	41	1	
Dist. of Columbia—Washington	Apr. 7-14	1		
Louisiana—Shreveport	Apr. 7-14	1		
Missouri—St. Louis	Apr. 7-14	6		
Missouri—West Plains	Mar. 8	1		
Montana—Beaverhead County	Mar. 1-31	2		
Montana—Park County	Mar. 1-31	1		
New Jersey—Rutherford	Apr. 7	1		
New York—New York	Apr. 7-14	5		
North Carolina—Greensboro	Apr. 7-14	2		
Pennsylvania—Pittsburgh	Mar. 31-Apr. 7	2		
Texas—Houston	Apr. 7-14	1		
Vermont—Richford	Apr. 12	2		
Wisconsin—Appleton	Apr. 7-14	5		

Smallpox—Foreign				
Places.	Date.	Cases.	Deaths.	
Brazil—Rio de Janeiro	Feb. 18-Mar. 18	2	3	
China—Canton	Mar. 3	Present.		
China—Hongkong	Feb. 24-Mar. 3	11	5	
France—Paris	Mar. 24-31	6	1	
Germany—Bremen	Mar. 25-Apr. 1	2		
Great Britain—Bristol	Mar. 25-31	2		
Great Britain—Glasgow	Mar. 30-Apr. 6	1		
Greece—Athens	Mar. 15-22		2	
India—Bombay	Mar. 13-20		18	
India—Calcutta	Mar. 3-10		102	
India—Kanchi	Mar. 11-18	33	17	
India—Madras	Mar. 10-16		39	
India—Rangoon	Mar. 3-10		101	
Italy—General	Mar. 15-22	35		
Mexico—Tuxtepec	Mar. 27-Apr. 3		1	
Russia—Odessa	Mar. 25-31	10	2	
Russia—St. Petersburg	Mar. 10-24	12	1	
Spain—Barcelona	Mar. 21-31		6	

Yellow Fever.				
Places.	Date.	Cases.	Deaths.	
Brazil—Rio de Janeiro	Feb. 18-Mar. 18	10	6	
Honduras—Choloma	Apr. 6	6		
Nicaragua—Managua	Mar. 10-17		1	

Plague—United States.				
Places.	Date.	Cases.	Deaths.	
Delaware—Reedy Island, Quarantine	Apr. 6-11	2	1	
(On steamship <i>Barrisfield</i> , from Bombay.)				

General Officers	1st Lieut.	2d Lieut.	3d Lieut.	4th Lieut.	5th Lieut.	6th Lieut.	7th Lieut.	8th Lieut.	9th Lieut.	10th Lieut.	11th Lieut.	12th Lieut.	13th Lieut.	14th Lieut.	15th Lieut.	16th Lieut.	17th Lieut.	18th Lieut.	19th Lieut.	20th Lieut.	21st Lieut.	22nd Lieut.	23rd Lieut.	24th Lieut.	25th Lieut.	26th Lieut.	27th Lieut.	28th Lieut.	29th Lieut.	30th Lieut.	31st Lieut.	32nd Lieut.	33rd Lieut.	34th Lieut.	35th Lieut.	36th Lieut.	37th Lieut.	38th Lieut.	39th Lieut.	40th Lieut.	41st Lieut.	42nd Lieut.	43rd Lieut.	44th Lieut.	45th Lieut.	46th Lieut.	47th Lieut.	48th Lieut.	49th Lieut.	50th Lieut.	51st Lieut.	52nd Lieut.	53rd Lieut.	54th Lieut.	55th Lieut.	56th Lieut.	57th Lieut.	58th Lieut.	59th Lieut.	60th Lieut.	61st Lieut.	62nd Lieut.	63rd Lieut.	64th Lieut.	65th Lieut.	66th Lieut.	67th Lieut.	68th Lieut.	69th Lieut.	70th Lieut.	71st Lieut.	72nd Lieut.	73rd Lieut.	74th Lieut.	75th Lieut.	76th Lieut.	77th Lieut.	78th Lieut.	79th Lieut.	80th Lieut.	81st Lieut.	82nd Lieut.	83rd Lieut.	84th Lieut.	85th Lieut.	86th Lieut.	87th Lieut.	88th Lieut.	89th Lieut.	90th Lieut.	91st Lieut.	92nd Lieut.	93rd Lieut.	94th Lieut.	95th Lieut.	96th Lieut.	97th Lieut.	98th Lieut.	99th Lieut.	100th Lieut.
1st Lieut.	2d Lieut.	3d Lieut.	4th Lieut.	5th Lieut.	6th Lieut.	7th Lieut.	8th Lieut.	9th Lieut.	10th Lieut.	11th Lieut.	12th Lieut.	13th Lieut.	14th Lieut.	15th Lieut.	16th Lieut.	17th Lieut.	18th Lieut.	19th Lieut.	20th Lieut.	21st Lieut.	22nd Lieut.	23rd Lieut.	24th Lieut.	25th Lieut.	26th Lieut.	27th Lieut.	28th Lieut.	29th Lieut.	30th Lieut.	31st Lieut.	32nd Lieut.	33rd Lieut.	34th Lieut.	35th Lieut.	36th Lieut.	37th Lieut.	38th Lieut.	39th Lieut.	40th Lieut.	41st Lieut.	42nd Lieut.	43rd Lieut.	44th Lieut.	45th Lieut.	46th Lieut.	47th Lieut.	48th Lieut.	49th Lieut.	50th Lieut.	51st Lieut.	52nd Lieut.	53rd Lieut.	54th Lieut.	55th Lieut.	56th Lieut.	57th Lieut.	58th Lieut.	59th Lieut.	60th Lieut.	61st Lieut.	62nd Lieut.	63rd Lieut.	64th Lieut.	65th Lieut.	66th Lieut.	67th Lieut.	68th Lieut.	69th Lieut.	70th Lieut.	71st Lieut.	72nd Lieut.	73rd Lieut.	74th Lieut.	75th Lieut.	76th Lieut.	77th Lieut.	78th Lieut.	79th Lieut.	80th Lieut.	81st Lieut.	82nd Lieut.	83rd Lieut.	84th Lieut.	85th Lieut.	86th Lieut.	87th Lieut.	88th Lieut.	89th Lieut.	90th Lieut.	91st Lieut.	92nd Lieut.	93rd Lieut.	94th Lieut.	95th Lieut.	96th Lieut.	97th Lieut.	98th Lieut.	99th Lieut.	100th Lieut.	

Public Health and Marine Hospital Service.

See New York Medical Journal, March 22, 1906, p. 77.
See New York Medical Journal, March 22, 1906, p. 77.
See New York Medical Journal, March 22, 1906, p. 77.

ANDERSON, J. W., Assistant Surgeon. Relieved from special temporary duty at New Orleans, La., and directed to proceed to Portland, Me., reporting to the Medical Officer in Command, for duty and assignment to station.

BROOKS, E. H., Pharmacist. Directed to proceed to Tampa Bay Quarantine Station and directed to proceed to Portland, Me., reporting to the Medical Officer in Command, for duty and assignment to station.

BRIDGES, R. H., Assistant Surgeon. Granted leave of absence for five days, from April 11, 1906, under the provisions of Paragraph 101 of the Regulations.

CHERRY, E. L., Pharmacist. Directed from duty at San Francisco, Cal., and directed to proceed to Honolulu, I. H., reporting to Dr. W. B. Hutchinson, Director of the Leprosy Investigation Station, for duty at Nolo-

GUTERAS, G. M., Surgeon. Granted leave of absence for ten days, from April 11, 1906.

JACKSON, J. M., Acting Assistant Surgeon. Granted leave of absence for ten days, from April 17.

KROGER, H. W., Acting Assistant Surgeon. Granted leave of absence for ten days, from April 16, 1906, under the provisions of Paragraph 101 of the Regulations.

KREN, W. H., Pharmacist. Directed to proceed to Tampa Bay Quarantine Station for duty and assignment to station.

LANE, W. M., Assistant Surgeon. Five days' leave of absence revoked, and directed to rejoin his station at Washington, D. C.

RUCKER, W. C., Assistant Surgeon. Relieved from special temporary duty at New Orleans, and directed to proceed to Vineyard Haven, Mass., and assume temporary command of the Service.

SMITH, F. C., Assistant Surgeon. Relieved from special temporary duty at New Orleans, La., and directed to rejoin his station at Detroit, Mich.

THOMAS, F. F., Assistant Surgeon. Granted fourteen days' leave of absence en route from New Orleans to Detroit.

WARD, W. K., Assistant Surgeon. Granted leave of absence for five days, from April 4th, on account of sick-

YOUNG, R. B., Assistant Surgeon. Directed to proceed to Baltimore and Bay City, Mich., for special temporary duty with completion of which to rejoin station.

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RUFFNER, E. L., First Lieutenant and Assistant Surgeon. Granted thirty days' leave of absence, to take effect April 11, 1906, and permission to apply for an extension of his leave.

Navy Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the week ending April 21, 1906.

BROOKS, E. H., Assistant Surgeon. Ordered to the Columbia.

LANGHORNE, C. D., Surgeon. Ordered to Washington, D. C., for duty in attendance on course of instruction at the Naval Medical School.

NELSON, H. T., Jr., Assistant Surgeon. Detached from the Naval Academy and resignation accepted, to take effect April 11, 1906.

PEASE, T. N., Assistant Surgeon. Detached from the Columbia, and ordered home to await orders.

SCHALLER, W. F., Assistant Surgeon. Ordered to the Naval Hospital, Mare Island, California.

WOODS, E. L., Assistant Surgeon. Ordered to the Naval Academy.

Births, Marriages and Deaths.

Born.

DEVEREUX.—In Fort Logan, Colorado, on Sunday, March 25th, to Dr. J. Ryan Devereux, United States Army, and Mrs. Devereux, a son.

WILSON.—In Fort Oglethorpe, Georgia, on Sunday, April 15th, to Dr. James Sprigg Wilson, United States Army, and Mrs. Wilson, a son.

Married.

ABBOTT—CROZIER.—In Cleveland, Ohio, on Thursday, April 12th, Dr. William J. Abbott and Miss Mary Crozier.

ALLEN—CURTIS.—In Cambridge, Massachusetts, on Wednesday, April 18th, Dr. David Gordon Allen and Miss Mary Gardiner Curtis.

CURTIS—HIBBARD.—In Chicago, on Wednesday, April 11th, Dr. Lester Curtis and Mrs. Mary B. Hibbard.

FORBES—CHEW.—In Chicago, on Wednesday, April 18th, Mr. Theodore Weems Forbes and Miss Elizabeth Chew, daughter of Dr. John Hamilton Chew.

KENNEDY—BURNHAM.—In Chicago, on Saturday, April 14th, Dr. William Harrison Kennedy and Miss Effie Eleanor Burnham.

SANBORN—DECORDOVA.—In New York, on Wednesday, April 18th, Dr. John W. Sanborn and Miss Fanny L. De Cordova.

WYLLIE—WOODRUFF.—In New York, on Thursday, April 12th, Mr. Sims Gill Wyllie, son of Dr. W. Gill Wyllie, and Miss Louise Sayre Woodruff.

Died.

BABCOCK.—In Milwaukee, Wisconsin, on Tuesday, April 10th, Mrs. Georgia Richardson Babcock, wife of Dr. Charles L. Babcock, aged thirty-three years.

BOWSER.—In Bedford, Pennsylvania, on Wednesday, April 11th, Dr. Alexander J. Bowser.

COLLINGS.—In Mount Washington, Kentucky, on Tuesday, April 10th, Dr. C. A. Collings.

COOK.—In Detroit, Michigan, on Saturday, April 14th, Dr. Emma Cook, aged fifty-nine years.

GAFFNEY.—In Newark, N. J., on Tuesday, April 17th, Dr. Matthew T. Gaffney, aged thirty-six years.

HEDGES.—In South Orange, N. J., on Saturday, April 14th, Dr. Joseph Hedges, aged seventy-eight years.

MCCALLUM.—In Berkeley, California, on Friday April 6th, Dr. J. B. McCallum.

MORAN.—In Glasgow, Kentucky, on Thursday, April 12th, Dr. F. D. Moran, aged eighty-eight years.

RICHARDSON.—In San Francisco, California, on Tuesday, April 10th, Dr. Nicholas Richardson, aged thirty-four years.

SAWYER.—In Springvale, Maine, on Friday, April 13th, Dr. Ira C. Sawyer, aged sixty-six years.

SMOOT.—In Society Hill, Charles County, Maryland, on Thursday, April 12th, Dr. Andrew J. Smoot, aged seventy-eight years.

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CLINICAL MANIFESTATIONS OF THE TOXÆMIA OF PREGNANCY.*

By J. CLIFTON EDGAR, M. D.,

NEW YORK.

The object of my paper this evening is merely to set forth in a preliminary statement the results of my study of the clinical manifestations of the toxæmia of pregnancy during the past year.

For the moment I take no interest in the pathological findings or the ætiology of the condition, and am only a student of the clinical picture of the state or states that we term pregnancy toxæmia.

The present stage of our knowledge of the toxæmia of pregnancy is such that as yet very little of a positive nature can be said upon the subject. But the belief is slowly but surely gaining ground that while it is undoubtedly true that various toxæmias may occur in pregnancy, still that a special autotoxic state of pregnancy exists, or rather that the pregnant state predisposes or favors a condition of toxæmia peculiar to the pregnant woman. This toxæmia of pregnancy may be defined as a state of the blood due to faulty metabolism and *possibly* arising from hepatic insufficiency. It shows itself most commonly by trivial ailments that we see in many pregnant women, but exceptionally by serious, severe, and even pernicious affections, such as acute yellow atrophy of the liver, pernicious vomiting and eclampsia, conditions which, while once thought to have nothing in common, are now believed to be closely related.

It is necessary to further preface my report with the statement that to-day we are practically ignorant of the origin of the poisonous material or materials causing pregnancy toxæmia. Five principal theories have been advanced as to the source of the toxic materials: 1. Nephritic theory. (Uræmia. Kidney insufficiency.) 2. Gastrointestinal theory. (Intestinal intoxication. Acid intoxication.) 3. Hepatic theory. (Hepatic insufficiency. Hepatic lesions.) 4. Ovarian theory. (Secretion of the ovary.) 5. Ovum theory. (Syncytial. Placental.)

While our present knowledge of the subject certainly leaves us ignorant of the exact origin and even of the exact nature of the toxic sub-

stance or substances causing the autotoxic state, still there is a rapidly growing belief, among those who are giving the subject the most time and study, that: 1, These toxic substances are metabolic in origin; 2, there is a direct connection between these metabolic changes and the pregnant condition itself; and, 3, these toxic substances in the blood are more or less identical in pernicious pregnancy, vomiting and eclampsia alike, and that they in some cases at least cause first lesions in the liver and subsequently in the kidneys, the kidney changes being secondary in character.

Now this last statement is the most important one we have to make this evening, for the reason that the time will probably come if it is not already present, when we are able to detect an autotoxic state, in pernicious pregnancy vomiting and the preeclamptic state, by the detection of marked changes in metabolism, from a chemical examination of the urine, before the presence of albumin and casts point to the secondary changes in the kidneys.

It is along the lines of faulty metabolism that I have been seeking for the danger signal, the diagnosis of pregnancy toxæmia.

For years the belief, as already stated, has been daily growing stronger and stronger that pregnant women are subject to a special kind of toxæmia, the clinical picture of which deals with high arterial tension, headache, dizziness, gastric disturbances, mental and physical torpor, disturbances of the bowels, as intestinal toxæmia, of the liver, as jaundice, and the skin, as pruritis.

This is the familiar picture of the over charging of the blood with some toxic material, and was often the only clinical index we had of a serious autotoxic state in persistent pregnancy vomiting and an impending eclampsia.

For it is well known that in persistent pregnancy vomiting, the urine does not contain albumen until just before death, and many of us know to our sorrow that uranalysis is often negative until after the first eclamptic convulsion.

We have had various clinical indices offered to us in the past pointing to an autotoxic state, the principal one of which was a low area output in the urine, but subsequent clinical tests showed this sign to be unreliable. Patients with low urea percentages showed none of the clinical symptoms of toxæmia, and patients with normal urea percentages passed into eclamptic convulsions or died of pernicious vomiting of pregnancy.

* Read before the Medical Society of the County of New York, March 27, 1906.

this was the state in the majority of pregnant women within a year or so of the present time.

Within the past two years another clinical method of determining the state of pregnancy has been proposed through the original researches of Dr. James Ewing, of the Cornell University Medical College. Dr. W. S. Stone was the first to apply this method of uranalysis with encouraging results in 1924. This clinical index is based upon the supposition that even mild cases of pregnancy toxæmia are caused by interference with the normal metabolism in the liver cells, and that as a result metabolism is imperfectly carried out and various unoxidized compounds are formed, which in themselves are poisonous in character. Of these unoxidized compounds replacing the total nitrogen, the most significant at present for danger signals of toxæmia appear to be the ammonia nitrogen and the aminoacid or undetermined nitrogen.

Some research has already been done along these lines, and one or two hasty conclusions have already been drawn and published.

For instance, the normal proportion of total nitrogen excreted as ammonia nitrogen is estimated at from three to five per cent., and one observed five already gone on record as stating that when the ammonia nitrogen proportion exceeds ten per cent. to the patient something of emergency, it represents a danger signal, and as soon as reached emptying of the uterus is demanded.

I do not believe that as yet sufficient material has been collected to permit us to formulate from the percentages of total nitrogen excreted as urea nitrogen, ammonia nitrogen, and aminoacid, or undetermined nitrogen, any rule to guide us in the determination of the severity of the pregnancy toxæmia. These relations vary in the normal individual, and are dependent upon the nitrogenous food intake, and many other causes of error are possible.

Hasty conclusions and clinical formulæ published at this state of our knowledge of the subject and placed in the hands of the general practitioner almost certainly do harm to our patients. We have had clinical tests offered to us in the past for nothing that appears to promise to be much as the chemical analysis of the urine for the so-called nitrogen partition.

To reach any definite conclusion upon this subject of faulty metabolism, it is necessary to tabulate a large number of urinalyses, both of those who do and who do not show clinical symptoms of toxæmia. From a large number of such observations we may possibly derive such practical information upon the subject as will be of value to the general practitioner.

For nearly a year now I have had these chemical examinations made by a competent chemist,² both of those who present cases in my private practice, and of the recorded cases in two hospital services. Still, even the material at hand, I hesitate to formulate rules for a guide to the practitioner.

² Dr. W. S. Stone, of the Cornell University Medical College, has kindly loaned to me the material at his disposal for this purpose.

CHARACTER OF AN INDICATING AN EXISTING PREGNANCY TOXAEMIA.

But I will state this, however, that in most of my cases examined in which the clinical picture of a toxic condition was present, such as headache, giddiness, excessive vomiting, slight jaundice, mental and physical torpor, high arterial tension, itching of the skin, etc., the complete chemical examination of a twenty-four hour specimen of urine showed errors in metabolism.

My study of the clinical manifestations of pregnancy toxæmia is based upon the chemical examinations of twenty-four hour specimens of urine for the various percentages of the total nitrogen excreted as urea nitrogen, ammonia nitrogen, creatinin nitrogen, uric acid nitrogen and undetermined or aminoacid nitrogen, and the comparison of this nitrogen partition with the clinical symptoms observed in the pregnant and puerperal states has extended nearly over one year and embraces upward of sixty-two chemical analyses in twenty-four patients.

The cases presented for your inspection this evening are not selected ones, but comprise all the cases examined up to date.

It should be further understood also that the analyses of these urines, included in addition to total nitrogen and the nitrogen percentages or coefficients, the reaction, specific gravity, tests for albumin, sugar, indican, urobilin and casts, and in most of the specimens for acetone and acetoacetic acid, provided the intake of food is sufficient to cover the heat loss.

The characteristics of a urine indicating normal metabolism depend upon the relation of the nitrogen of the nitrogenous compounds of urine to the total nitrogen. Thus, broadly speaking when the total nitrogen ranges from three to fifteen grams a day the normal extremes of the proportions of total nitrogen excreted as urea nitrogen, ammonia nitrogen, kreatinin nitrogen, uric acid nitrogen, and undetermined nitrogen, according to Folin, are as follows:

PERCENTAGES OF THE NITROGEN OF THE NITROGENOUS COMPOUNDS OF THE URINE TO THE TOTAL NITROGEN.	Per cent.
Proportion of total nitrogen excreted as urea nitrogen.....	61.0 to 88.0
Proportion of total nitrogen excreted as ammonia nitrogen.....	13.6 to 2.9
Proportion of total nitrogen excreted as kreatinin nitrogen.....	17.2 to 2.7
Proportion of total nitrogen excreted as uric acid nitrogen.....	2.5 to 0.7
Proportion of total nitrogen excreted as undetermined nitrogen.....	11.1 to 4.0

The normal metabolism is indicated by a urine in which the various percentages of the total nitrogen excreted as urea nitrogen, ammonia nitrogen, and undetermined nitrogen, depart from the generally accepted normal standard for the given quantity of total nitrogen excreted in the twenty-four hours.

The study of my twenty-four cases of pregnancy and the puerperium here recorded enables me to divide them into four classes, as follows:
A. Nontoxic pregnancies. B. Cases of toxæmia resulting. C. Cases of preclampsitic toxæmia. D. Cases of eclampsitic toxæmia.

A. NONTOKIC PREGNANCIES.

In this class fall Cases I to VIII, inclusive, and consist of those in which both the clinical symp-

CHART A
NONTOXIC PREGNANCIES.

	July 16, 1905	July 24, 1905	Aug. 9, 1905	Sept. 8, 1905	Sept. 28, 1905	Oct. 30, 1905	Nov. 10, 1905	Dec. 4, 1905	Oct. 25, 1905	Nov. 17, 1905	Jan. 22, 1906	Feb. 10, 1906	Mar. 10, 1906	Feb. 10, 1906	Jan. 2, 1906	Dec. 16, 1905	Jan. 24, 1906	Feb. 21, 1906	Mar. 7, 1906
Total nitrogen,							9.39 grammes	3.41	9.75	9.40	7.46	4.0	7.81	8.25	5.81	8.4	7.95	8.9	9.91
Urea							75.2	75.02	70.0	75.4	70.7	71.2	77.0	77.8	79.9	77.3	73.0	69.2	81.4
Ammonia nitrogen							5.8	5.85	4.0	5.8	6.9	6.1	5.8	4.5	5.8	7.6	6.7	7.7	4.7
Creatinin							1.0	5.42	6.2	5.2	4.1	4.8	5.4	4.9	3.5	3.2	3.5	4	4.2
Uric acid							2.8	3.41	5.0	2.3	2.1	2.4	2.4	1.9	1.7	2.6	2.8	3.7	1.6
Undetermined nitrogen							12.2	5.11	14.7	11.0	16.2	15.5	10.1	12.9	11.4	16.4	14.0	18.5	8.7
Albumin,									Trace	Trace			0						
Cases	Case I, Mrs. T. G.		Case II—Mrs. E. F.					Case III Mrs. A. M.		Case IV Mrs. D.				Case V Mrs. B. B.	Case VI Mrs. A. L. K.	Case VII Mrs. H. F.	Case VIII Mrs. H. R.		

toms and the chemical analyses are in accord with what can be considered a normal standard.

CASE I. *Nontoxic Pregnancy*.—Mrs. I. C., prima gravida, well nourished, aged twenty-eight, expecting to be confined September 17, 1905, was under my care for the months of June and July last, and was then referred to another physician during my absence from town.

Mrs. C. suffered little from morning sickness and clinically appeared in perfect health. A chemical analysis of a twenty-four hour specimen of urine made July 16, 1905, showed normal metabolism. There was a trace of albumin, no sugar, globulin was absent, nuclealbumen was absent; and indican moderately high. Leucine was found in very small amount, and rich sediment of oxalates. The proportion of amino-acid was 9.78 per cent. Mrs. C. passed through an uneventful pregnancy and labor, as far as toxæmia was concerned.

CASE II. *Nontoxic Pregnancy*.—Mrs. E. F., tertii-para, thin with no excess of fat, expecting to be confined November 26, 1905, the wife of a physician of this city. She was closely watched by her husband and myself for evidences of pregnancy toxæmia, because her sister-in-law nearly lost her life from eclampsia.

Seven chemical analyses in all were made in this case from July, 1905, to November, 1905, for the various nitrogen proportions, and in no instance did these examinations show decided abnormal metabolism. Nor, on the other hand, was I able to detect upon repeated observations of the patient any of the physical signs of pregnancy toxæmia, as persistent nausea and vomiting, headache, high arterial pressure, jaundice, itching of the skin, or salivation. You will observe from the chart that the urines are practically normal. Indican, acetone, and acetoacetic acid were not present in any of the analyses. The labor and puerperium were uneventful, and she nurses a healthy infant.

CASE III. *Nontoxic Pregnancy*.—Mrs. A. M., tertii-para, well nourished, expecting to be confined January 6, 1906. But one complete analysis was made in this instance because of the patient's absence abroad. This analysis showed a very small amount of total nitrogen (3.813 grammes per day), otherwise normal. No indican, acetone, or acetoacetic acid. The low nitrogen output may possibly be accounted for by the weight reducing diet the patient persisted in following. An uneventful pregnancy, labor, and puerperium. Nursed a healthy infant.

CASE IV. *Nontoxic Pregnancy*.—Mrs. D. Eclamptic in first pregnancy, aged twenty-two, secundipara, thin, no superfluous fat, the wife of a physician of this city, expecting to be confined March 18, 1906. This patient was closely watched by her husband and myself because her first pregnancy terminated at the eighth month in a severe eclamptic seizure, but she and her baby were saved by my assistant by a prompt accouchement forcé.

The eclampsia in Mrs. D.'s case in her first pregnancy was at the thirty-seventh week, and was evidently of nephritic origin. Two convulsions occurred. For three weeks previously headache and high blood pressure were present with abundant albumin. No jaundice was at any time present. Puffiness of the face and œdema of the extremities were marked. Mrs. D. had been upon a strictly milk diet for three weeks prior to the occurrence of the eclampsia, when the amount of albumin diminished she was allowed a squab, potatoes, and toast by her attending physician. The eclampsia followed the next day.

Five chemical analyses have been made in this case. The trace of albumin in the first two analyses was nuclealbumen. No indican or acid condition were found. The analysis of January 22, 1906, showed apparently a high undetermined or aminoacid nitrogen (16.2 per cent.), and that of February 10, 1906, a low

	Case IX.	Case X.	Case XI.	Case XII.	Case XIII.	Case XIV.
	Mrs. A.	Mrs. B.	Mrs. A. H. P.	Mrs. L.	Mrs. R.	Mrs. H.
Urea	45.4	56.7	42.9	77.8	67.5	61.1
Ammonium nitrogen	40.7	41.9	48.4	4.3	14.20	2.6
Creatinin	—	—	7.9	5.1	1.0	4.3
Uric acid	—	—	3.6	2.1	2.2	3.7
Undetermined nitrogen	43.7	47.97	18.0	16.6	13.1	22.0
Albumin	—	—	—	Albumen	Trace	Trace
Casts	—	—	—	Casts	Trace	Trace
(Average)						
Urea	—	—	60.5	77.8	71.4	61.1
Ammonium nitrogen	—	—	100	4.3	14.20	2.6
Creatinin	—	—	7.9	5.1	1.0	4.3
Uric acid	—	—	3.6	2.1	2.2	3.7
Undetermined nitrogen	—	—	18.0	16.6	13.1	22.0
Albumin	—	—	—	Albumen	Trace	Trace
Casts	—	—	—	Casts	Trace	Trace

pregnancy. Thus of the six cases, five we consider of this variety.

It will be noted from Chart B that in four of these six cases of toxæmic vomiting the proportion of total nitrogen excreted as ammonia nitrogen ranges high, reaching the enormous percentage of 48.4 in Case X. That of sixteen analyses albumen only appears as a trace four times and casts only twice.

CASE IX. Toxæmic Vomiting.—Mrs. McA., native of the United States, age twenty-seven, quintipara, quite fat, was admitted into my service at the Manhattan Maternity Hospital on August 8, 1905. She had had four full term normal confinements. The last menstruation was in January, 1905.

Upon admission the patient was found to be seven months pregnant, and to have suffered from nausea, and vomiting, and occasional headache throughout her pregnancy. During the last two weeks the nausea and vomiting had been almost constant, and during the last week she retained nothing on her stomach. Patient complained of pain in epigastrium, extending over the right lobe of the liver, and these parts were sensitive to pressure. Mrs. McA. had had trouble in reading type in the last week. Slight œdema of the lower extremities was present.

The patient was put to bed and treated with free catharsis, milk diet, and rest, to which she responded well, and was discharged in apparently good condition August 25, 1905, having been in the hospital eighteen days.

Upon September 2, 1905, this patient was again admitted to the hospital, complaining of renewed nausea and vomiting and an attack of acute bronchitis. The vomiting persisting and the patient gradually losing strength, labor was induced September 10, 1905, with a No. 3 hydrostatic bag. Labor terminated on September 12th, in the delivery of twins.

The patient's condition improved immediately after delivery, the history indicated a normal puerperium, and she left the hospital in good condition, nursing a pair of vigorous twins.

CASE X. Toxæmic Vomiting.—Mrs. B., aged twenty-seven, tertipara, moderately fat, was admitted to my service at the Manhattan Maternity Hospital, August 27, 1905. She had had two living children after uneventful confinements. Last menstruation was December, 1905, and she appeared to be six or seven months pregnant. From March until July patient vomited possibly three or four times a week, but no headache or other symptoms during this time. During the latter part of July, 1905, nausea and vomiting became persistent, occurring at any time day or night, and was accompanied by continued headache and dimness of vision. She had also at this time lancinating pains in the præcordial region. There was no pain in the epigastrium or over her liver. On admission to the hospital the patient had a pulse of 130, which was very weak, requiring immediate stimulation. There were present marked restlessness, hallucinations and delusions of fear and persecution. An alcoholic history was obtained from the patient's family.

A twenty-four hour specimen of urine was sent to the laboratory and showed that the percentage of total nitrogen excreted as ammonia was 48.4, as undetermined nitrogen 28.5 and as urea 32.9. There was no albumen, sugar, or casts. This urine was ammoniacal when received at the laboratory, which possibly accounts for the enormous ammonia coefficient.

However, while waiting and treating the case expectantly for a few days, spontaneous premature labor took place August 31, 1905, and the patient made an uninterrupted recovery.

CASE XI. Toxæmic Vomiting.—Mrs. A. H. P., quartipara, age thirty-eight years, married thirteen years. Three previous spontaneous abortions at the third and fourth months, and three living children at term. Mrs. P. states that she always enjoyed good health before marriage, being, as she expressed it, "the healthy one of the family." This condition obtained for five years after marriage, and until after the birth of her third child, and "she never has known what it was to have good health since." At this time she was treated by various gynecologists of New York for retrodisplacement and finally underwent an Alexander operation seven years ago. Suppuration took place in both wounds, and a prolonged convalescence resulted. She was told at this time that the suppuration in the wounds caused an exaggerated shortening of the round ligaments, and that bladder pressure and irritation might result.

I first saw Mrs. P. in her present pregnancy, November 16, 1905. She was then in her fourth month, extremely thin, and poorly nourished, and for eight weeks past she had been confined most of the time to her bed because of physical weakness from persistent vomiting and also symptoms of threatened abortion. At this date I was unable to recognize marked clinical symptoms of toxæmia. Mrs. P.'s pulse was rapid, but soft and weak; her mental condition normal; there was no jaundice or pruritus, but persistent headache was present.

A twenty-four hour specimen of urine reported upon November 19, 1905, shows no albumin or sugar, or casts, a trace of indican, and a low urea (60.5 per cent.), and high ammonia (10.0 per cent.) and amino-acid (18.0 per cent.) ratio for the amount of nitrogen output (6.48 grammes per diem). In spite of this laboratory report I could not from the clinical symptoms fully satisfy myself of the toxic origin of the vomiting, and while treating the case expectantly for a few days, spontaneous abortion occurred on November 23, 1905.

A slow recovery from the excessive blood loss of the abortion ensued, and I sent this patient away to the country at the end of a month. She returned in six weeks very little improved, and the first of March I sent her to Palm Beach, Florida. She failed to take on flesh, and in spite of careful dieting and treatment remained very anæmic.

An examination March 12, 1906, showed a uterus markedly ante flexed and held up against the posterior walls of the pubes. A chemical analysis of a twenty-four hour specimen of urine made March 12, 1906, shows volume 1,435 c.c.; specific gravity, 1.015; reaction, acid. No albumin, sugar, acetone, or acetoacetic acid. A trace of indican. The undetermined nitrogen is high in this case at the expense of the kreatinin and ammonia; but the urine is probably normal. I grant the possibility of a reflex causative factor for the persistent vomiting in this case residing in the ante flexed uterus, but from the urinalyses and my observation of Mrs. P.'s case, while not eliminating entirely the reflex cause, I am inclined to consider the case mainly of toxæmic origin.

CASE XII. Toxæmic Vomiting.—Mrs. L., duodecimipara, was referred to me for her eleventh confinement by Dr. Charles Gilmore Kerley. She was first seen by me in December, 1904, and was confined at full term of a healthy living child in the latter part of March, 1905. Patient had had four miscarriages and has seven living children. In every pregnancy, without exception, beginning in the first month, this patient had persistent daily nausea and vomiting from arising in the morning until noon. This condition continued until three or four weeks before delivery. At no time was there any jaundice, and the patient considered herself always healthy,

looking more persistent and vomiting as a necessary accompaniment of pregnancy.

In the last pregnancy, Mrs. L. considered herself healthy, by reason of the persistent vomiting, and did not look to her for the usual diet and health which is the province of the pregnant woman. She was, however, not without her usual vitality, with the exception of the vomiting.

There was a good reason for this, and I watched her carefully for obvious symptoms of toxemia in the present pregnancy, without being able to detect any. Her usual vomiting of the early pregnancy was of the usual normal and unimportant, and repeated, and she was not without her usual vitality, although moderate amounts of indican were at times found. Vomiting ceased after the first few months and continued to the end. The patient was seen by me May 10, 1906, when her physical and mental condition appeared of the best, she had gained in weight since her pregnancy, and she stated that she never enjoyed being sick.

In January, 1906, Mrs. L. again became pregnant and for the twelfth time, and the early weeks of this pregnancy were a continuation of those of her previous pregnancies, with a few exceptions and vomiting. She was at this time quite thin and poorly nourished. Early in January, 1906, however, the vomiting became more constant and persistent than ever before, and I was

I found the vomit of the vomit. I found a very different clinical picture present from that of her previous pregnancy. In addition to the persistent vomiting, there was well marked general jaundice, remarkable weakness, loss of interest in the family. Salivation was present day and night, necessitating the constant use of the handkerchief, and general pruritus, but particularly of the lower extremities. Besides, physical and mental torpor to a marked degree were evident. None of these toxic symptoms were present in her previous gestations. There was a total absence of anything of a neurotic or hysterical nature, either in the previous pregnancy or in the present. The patient was seen by me May 10, 1906, when her physical and mental condition appeared of the best, she had gained in weight since her pregnancy, and she stated that she never enjoyed being sick.

I found Mrs. L.'s condition alarming, and I asked for a twenty-four hour specimen of urine, which was found to contain indican, and showed a normal metabolism, as will be seen from the chart (Case XII). There was no albumin, no sugar, indican, acetone, or

the negative urinalysis. I considered Mrs. L.'s condition so critical that I advised an early emptying of the stomach. The patient had no other symptoms, and I continued the treatment for the vomiting, jaundice, and mental torpor, and found no improvement by the time I saw her again.

A second analysis for the nitrogen partition was made by the same method, and shows a nearly normal result, although the indican, indican, 11.3 per cent, and the amount of free nitrogen, 11.3 per cent, are high.

Case XIII. Chronic Vomiting. Mrs. M. R., age thirty-six, born in New York, pregnant for the third time. She had been vomiting in February, 1905, and was seen by me March 10, 1905, when she was with Dr. D. D. Hubbard, of this city. Mrs. R.'s last menstruation was December 1904, and she had been vomiting for the last two months of her pregnancy. The vomiting was persistent, and she had lost weight, and she stated that she never enjoyed being sick.

morning hours, and this became more and more persistent as pregnancy advanced, until vomiting took place at any time during the day and night, and the stomach refused to retain anything. Dr. Hubbard cared for her at this time, and he administered the usual remedies for the vomiting of pregnancy without results. During the last two weeks in February Mrs. R. was confined to her bed because of loss of strength, and during the last week the only nourishment she received was by rectal alimentation.

When I saw the patient I found her temperature normal, pulse upon repeated counts between 120 and 130, no headache, and no jaundice. An examination of the genitals revealed only the pregnant condition of about two months. Heart, lungs, liver, and spleen normal. The patient's mental condition was perfect, and Dr. Hubbard, who had known the family for a long time, assured me of the absence of hysteria or neurotic conditions.

I confess the case puzzled me, because of the absence of toxemic symptoms, excepting the pulse, as well as those of a neurotic or reflex character. I asked for a twenty-four hour specimen of urine, and in order to watch the case more closely, I had Mrs. R. removed the next morning to a private room in the Manhattan Maternity Hospital, and ordered the colon irrigated every twelve hours with several gallons of normal salt solution. A preliminary report upon the urine furnished me on March 1, 1906, showed a total nitrogen output of 12.55 grammes per day, a percentage of ammonia nitrogen of 14.20, a trace of albumin and granular casts. The patient's stomach still refusing to retain even teaspoonful doses of peptonized milk, I emptied the uterus upon the afternoon of March 2, 1906. The patient made a good recovery, and on the day following the operation began to retain increasing quantities of peptonized milk, beginning with teaspoonful doses.

The complete report upon the first twenty-four hour specimen of urine showed, in addition to the above, acetone, acetoacetic acid in marked quantity, urobilin marked, but no blood pigment. Excess of indican. The urinalysis of a twenty-four hour specimen, March 3rd, shows practically the same characters as the first specimen, except that there is now much less indican. On March 5th, the report showed a urine in which the urea nitrogen percentage has gone up to 78.2, the ammonia nitrogen has dropped to 11.4, and the undetermined nitrogen to 6.6. There was a faint trace of albumin, no casts, urobilin marked, acetone present; test for acetoacetic acid not so marked.

CASE XIV. Toxic Vomiting.—Mrs. H., aged thirty-six, primipara, fat and well nourished, born in the United States, I saw in consultation with Dr. Martin Lewis Tirrell, on March 8, 1906.

Mrs. H. was married three years ago, and menstruated last November 10, 1905. During November and the first half of December she was in her usual health, and experienced only moderate morning sickness. Early in January vomiting became persistent, and during January and February in addition Mrs. H. suffered from what was considered mild articular rheumatism, with little if any fever. The middle of February the nausea and vomiting became almost incessant, in spite of the use of the usual remedies for the condition. Rapid loss of strength resulted, so that for two weeks before I saw the patient she was unable to leave her bed for any length of time. During this fortnight little or nothing was retained by the stomach, and four ounces of either beef juice or liquid peptonoids were injected into the rectum three times a day. The colon was thoroughly irrigated every morning. The vomited matter during the first week of March was mostly bile and occasionally blood.

At the time I saw the patient first, her pulse on re-

peated counts averaged 130, and soft and weak, temperature 99° F., respiration 24. I saw her vomit a black material containing bile and blood. No cardiac disease could be detected; the liver and spleen were normal in size and not sensitive. No œdema of the face or extremities could be detected. There was decided jaundice of the eyes, and a faint but appreciable jaundice of the skin. The uterus corresponded to the twelfth week of pregnancy. The patient was inclined to be incoherent in her statements, and Dr. Tirrell and the nurse in attendance reported a moderate delirium at night during the past three days. It was particularly for this alarming symptom that I was called in consultation.

In spite of the mental symptoms, jaundice, and rapid pulse in this case, the general clinical picture impressed me strongly as possessing a neurotic element, so much so that I advised expectancy for a couple of days at least. I ordered the bowels to be irrigated twice a day, and that a full twenty-four hour specimen of urine be sent down to me. I received this urine at noon on March 9th, and on the same evening a preliminary report showed large quantities of indican, and a distinct urobilin reaction, trace of albumin; no casts. On the evening of March 9th, I ordered for the patient ten grains of calomel, to be followed in the morning by half a bottle of bitter water. The next morning the bitter water being retained, large quantities of fecal matter came away in twelve stools. The pulse came down to a hundred, and the mental dulness disappeared. The complete urinalysis showed, in addition to the heavy indican and urobilin above mentioned, no sugar, no acetone, no acetoacetic acid. The specific gravity was 1.025 and reaction acid. There was a very large undetermined nitrogen, namely, 22.0 per cent., while the urea nitrogen was very nearly normal—namely, 67.4 per cent. for the 3.2 grammes of total nitrogen.

The colon irrigations were continued and salol and zinc sulphocarbolate given internally. The report of March 11, 1906, shows a pulse of 90; mental condition perfectly clear, jaundice almost imperceptible, and the stomach retaining milk, eggs, broiled chicken, raw tomatoes, and rice pudding. A decided improvement in the general condition was apparent. Gradual but steady improvement continued, and a report on a second twenty-four hour specimen of urine of March 14th shows no albumin, sugar, or casts. Indican large amount, a very low ammonia coefficient (1.36 per cent.), a rather high coefficient of undetermined nitrogen (15.45 per cent.), and a normal urea nitrogen (73.5 per cent.) for 3.16 grammes of total nitrogen. This urine is nearly normal, with the exception of the high indican reaction.

(To be concluded.)

MY EXPERIENCE WITH DOWNES'S ELECTROTHERMIC ANGEIOTRIBE IN PELVIC AND ABDOMINAL SURGERY.*

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After hearing papers read by Dr. A. J. Downes and Dr. C. P. Noble, of Philadelphia, on the use of the electrothermic instruments, of the former, in surgery and seeing Downes apply his angeiotribes to tissue I resolved to try them. Accordingly, in March, 1903, an outfit of them was secured by the Columbia Hospital for Women and I have employed them in 193 abdominal and 27 vaginal op-

erations. These 230 operations have been hysterectomies and panhysterectomies, removal of the appendages by the vaginal route, removal of the same structures by the abdominal route, removal of the vermiform appendix, the spleen, the kidney, of parovarian cyst, of portions of the intestines, etc. Perhaps I can best describe these instruments and their *raison d'être* by quoting from Downes's paper.

He says:

"With the development of aseptic surgery arose the necessity in hæmostasis, not only of a certain method of occluding the vessels, but of doing it with an agent which would not add a complication to the case either immediately or remotely. No method of hæmostasis generally used fulfills this definition. The use of the actual cautery leaves carbonized tissue, a slough and the danger of subsequent hæmorrhage. The objections to silk ligatures, especially the size required for large blood vessels and pedicles in the pelvis, are only too well known. The introduction of sterile absorbable ligatures bid fair to solve the problem; yet we have lately the angeiotrife, which is also uncertain, for Doyen and those following him use it now simply to compress a groove in which the animal ligature is applied without danger of its slipping.

The angeiotrife alone, without the addition of the ligature, is slow and with safety cannot be removed much under three minutes. If applied four times in a case nearly a half hour is consumed, for the time used in removing and applying is considerable. In the shorter process by the angeiotrife with the ligature added we retain some of the dangers of the ligature. In the use of the ligature the personal equation is a great and important factor in the results obtained. Yet allowing absolutely perfect technique and sterile material the ligature is an infected field or when thrown around such a body as the appendix or Fallopian tube is especially objectionable. I will make no attempt to cite cases showing the various effects following occasionally the use of ligatures. I will say this: If it is possible to control hæmorrhage within the abdomen and pelvis without the use of any extraneous material which remains after hæmostasis and by a method which is rapid and fulfills the definition of a perfect hæmostasis as given in the beginning of this paper, we have added very materially to the resources of surgeons. Is there any hope of such a possibility? I believe so. As already stated, the angeiotrife is slow, and after its use a fair proportion of cases bleed. There is something missing in this instrument, that is, sufficient heat in the compressing blades to cause coagulation of the albuminous constituents of the compressed area. This compressed and coagulated area under the proper amount of heat becomes desiccated. The constituent histological elements whether blood vessels, nerves, or mucous membrane, in the areas so treated lose their identity so that the microscope does not discover them. The only practical method of obtaining heat in the blades in a measurable and controllable form is by electricity. Hence the instruments are electrothermohæmostatic." (*Journal of the American Medical Association*, xxxvii, pp. 419-424, 1901.)

"In 1862, and for some years after, Baker Brown controlled ovarian pedicles by compressing them between the blades of a heavy clamp and applying the actual cautery to the side of the blades until they became hot enough to cook the compressed ribbons within their grasp. In those days of septic surgery his mortality rate was far below that of his confrères, and secondary hæmorrhage was unheard of after his operations. Some years later Keith further developed this method and used it through a series of years with remarkable result. Among those who followed Keith

* Read at the meeting of the Southern Surgical and Gynaecological Association, December 12-14, 1905, at Louisville, Ky.

the (possibly) differentiable functions f and g are not real

For those unacquainted with this method, the following explanation is offered. Pressure approximately that of a medium sized aneigotribe, is applied to the tissue to be hemostased, and the compressed ribbon is exposed to a temperature of not under 212° F., thus coagulating and agglutinating under pressure its albuminous constituents. In addi-



In Fig. 1 and Fig. 2 are seen the latest type of instruments with straight blades $2\frac{1}{4}$ inches long, but



In these instruments the heating medium is an in-



When the direct current is used there is required a motor, in addition to the above transformer, and mounted with it. In Fig. 5 is seen a motor transformer, the motor of which was recently especially devised

for use with these instruments, and is but a third the size and weight of the motor formerly used for this purpose.

In Fig. 6 is seen the cable for connecting the motor transformer with the blades of the angeiotribe. This cable is constructed of mineral and rubber and will

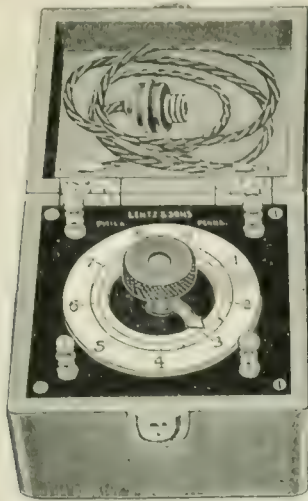


FIG. 4.

stand indefinite boiling. The cable can be made in one piece to be boiled for each operation, or it can be made in two parts, a long part to conduct the current from the transformer to the operating table and a short part or coupler to connect with the first part. The coupler is to be sterilized for each operation.

While novel, this instrumentarium is not complicated and allowing the generating source of electricity it is quite simple, in fact it is less complicated than the outfit required in ligature work.

By this method hæmostasis can be effected en masse or isolated blood vessels can be compressed by the points of the narrow blades. Unlike ligature work en

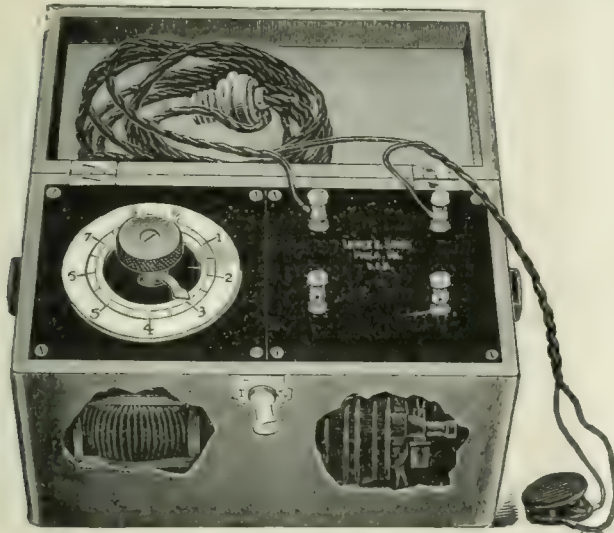


FIG. 5.

masse hæmostasis by this means is not open to objection since there is no constriction, no nerves are irritated, no exuding surfaces are left, compressed ribbons of coherent, sterile, nonbleeding tissues only remain. It will be readily seen, that hæmostased tissues of this character lessen the danger of adhesions.

It is impossible to construct an efficient thermic blade that will not become hot throughout, hence protection of the surrounding tissues is necessary. This can be effected by gauze, but much better by the shield seen in Fig. 7 which surrounds the heated blades, but comes in contact with them by fine points only and these points transmitting but little heat, the shield remains

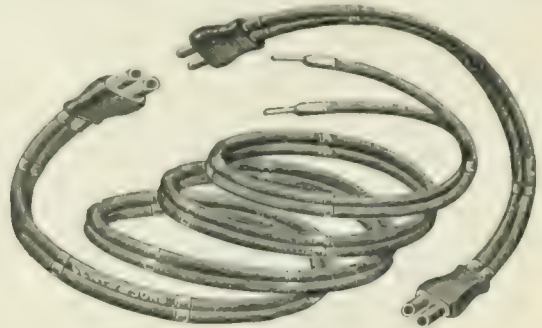


FIG. 6.

quite cool, thus making the use of electrothermic blades entirely safe within the abdomen.

For small bleeding points met in incisions, in amputation of the breast, in neck operations or any place where ordinarily fine ligatures would be required, I have devised a platinum loop called an artery forceps electrotherm. This little heater (Fig. 8) at a bright red heat applied to the tips of the ordinary hæmostatic forceps will transmit sufficient heat in ten seconds to control any small blood vessel within their grasp. The tip of the hæmostatic forceps against which the heater



FIG. 7.

rests may have a slight groove in it as a point of purchase for the platinum loop. This little heater replaces a number of perishable small electrothermic forceps. In addition to the above outfit there is required a platinum knife. It is similar to the artery forceps heater but made with wide surface like the usual platinum cautery knife.

A complete electrothermic outfit, therefore, consists of a few angeiotribes with blades of different widths, including one with curved blades, the shield, the cautery knife, the artery forceps heater, the cable, the electric current controllers, consisting of the motor transformer, for use with the continuous current, and a transformer for the alternating current. With this

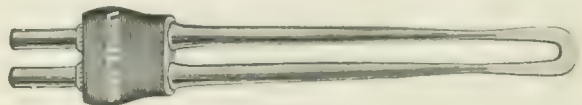


FIG. 8.

outfit and a sufficient number of ordinary hæmostatic forceps any hæmostatic problem in surgery can be solved.

The platinum in the instruments, the cautery knife, and the heater should be the same in weight and require about the same maximum current, 60 ampères. This is a higher ampérage than has ever been used in electrothermic instruments; but the heat developed in

current of patients requiring this treatment, having one blade to heat each separately and to be more convenient than where two blades are used. There is also the long danger of burning out the instrument. The short current may be used in all the instruments, including the coupling blades and handles, making possible the disposal with a point. The current that will render incandescent the coupling blades and handle is approximately 40 amperes. This is an excellent discharge, that one should be allowed to be given, just, though the heat will be very intense.

It is not necessary, when operating, the current can be regulated so that the current does not become too high, just and without danger the current can be used. The practical use, therefore, is that a series of heating the proper amount of current necessary to heat the instrument, or to heat gradually on the diameter of the transformer until the platinum in the square holder in the center is brought red. The heat independent operating time, when this point is reached on the transformer, it can be set and never

passed by the heated blade. When one has become accustomed to using the method it will be found possible, with the rheostat set at the proper place, to have in each operating room the transformer or motor transformer out of sight, under the operating table, with the cable connected with it and running to the edge of the operating table, and with the short sterilized coupler lying with our instruments near the field of operation, but applied to the first part of the cable at the edge of the operating table. For each operation the instruments and this short coupler cable can be resterilized. I have lately found a foot breaker very valuable. It dispenses with an assistant; the operator being in absolute control. The current being turned on when required by pressure of the foot.

The following rules will be found useful:

The pressing surface of the blades must be smeared with sterile oil before each application.

The field should be dried and freed from blood and the surrounding tissues protected from the outer surface of the blades by gauze, or preferably by my shield.

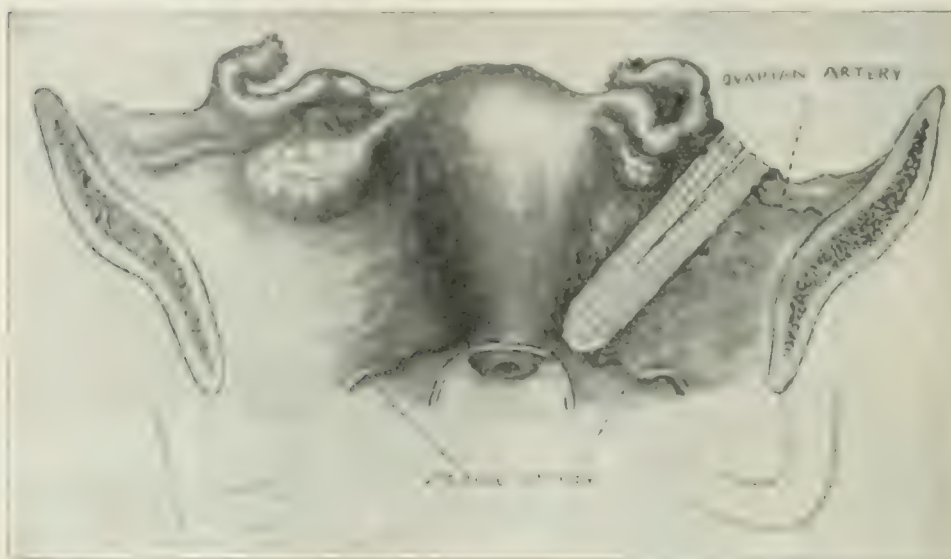


FIG. 9.

though the current being passed on from the first few light waves.

The current that heats the knife, as just described, when used on the blades will cause water placed on the pressing surface of the blades to boil in ten, fifteen and twenty seconds, for the different widths, as the heat is intense. In using the instruments, therefore, it will be understood that this amount of time is not short, and twenty seconds is used before the tissue becomes sufficiently hot and that we should allow time for the tissue to become after this with the pressure of the blades to the tissue to be heated. The current, therefore, for the tissue should be used for some time, as it is necessary. It will be found, however, that the narrow $\frac{1}{4}$ inch blades can be used in the same way, on the presentry, or on any of the tissue in the body, as the blades. As one becomes accustomed to the method it will be found necessary to use the blades for the cooking of the tissues before being used on any other part.

The operator should always remember that heat is not the only point of contact between the blades and the tissue, and therefore the temperature should be used at the same time. There is a certain amount of time for the instrument to be used, with the tissue heated, or not, and structure, but no harm comes if it is used more than thirty or forty seconds.

After each removal of the blades from the hæmostased tract they should be cleaned to remove all charred adhering blood and the pressing surfaces recoiled.

Too short an application should be avoided. No error is committed if the time is some seconds longer than required.

The shield should be applied after the adjustment of the angeiotribe and be removed last, so that the compressed hæmostased ribbon can be examined before letting it drop from view." (*American Medicine*, vi, pp. 860-865, 1903.)

Technique of application.—In vaginal hysterectomy the steps preceding hæmostasis of the uterine artery are the same as for the ligature operation. The angeiotribe is now applied to the whole or a part of the broad ligament close to the uterus the same as any other clamp would be. I have usually applied the smaller one and to but the lower half of it at first. If the ligature is very thick I prefer the heavier angeiotribe as it exerts more pressure and has a wider grasp on the tissues, though more time is required to heat the blades. The shield is carefully applied over the angeiotribe and gauze packed about the shield to protect the ureter, bladder and rectum from undue heating. The uterus is freed from the clamp before or after cooking, as one pre-

fers, by cutting through the ligament against the angeiotribe. The cable or coupler is now attached to the angeiotribe and the current turned into it. Until one becomes familiar with the instrument it is well to take the actual time of application. The angeiotribe is now applied to the other broad ligament in a similar manner. The remainder of the broad ligament and the round ligament either by the side of the uterus or across the infundibule pelvic ligament, is now clamped, due care to prevent including other structures being exercised. The shield is applied and gauze most carefully packed lightly about the instruments. Care is also necessary in order that the vaginal wall and vulva do not come in contact with the heated instrument. The pedicle is now severed and cooked and the other side treated likewise. The peritonæum now may be closed or the space entirely filled lightly with gauze

separate the blades of the instrument to enlarge the opening. A purse string suture of very fine catgut is now placed in the cæcum at this level for later covering the stump of the appendix. The small sized angeiotribe is now made to grasp the appendix just distal to the artery forceps mentioned and the current applied from twenty to thirty seconds. It is now removed and the appendix separated by cutting through the ribbon thus made. The cæcum is fixed by an assistant's forceps and the purse string tightened. The stump is now pushed down and the purse string tightened and tied over the stump. (See Fig. 11.)

In intestinal resection the method has been to apply the larger angeiotribe astride the intestine and obliquely as far as necessary on to the mesentery, on either side of the part to be removed. The portion is now carefully cut away, cutting on the distal

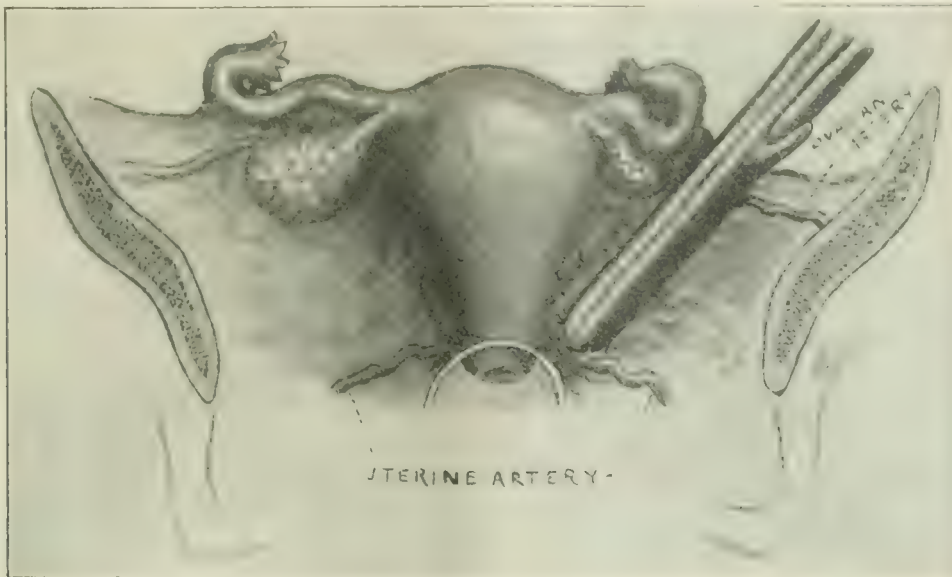


FIG. 10.

to be removed as in hysterectomy by any other plan.

In abdominal hysterectomy (Fig. 9 and Fig. 10) the plan is reversed. If the ovaries are to be left, the first grasp of the instrument is between the ovary and Fallopian tube. If the cervix is to be left, it is amputated after the uterine vessels are secured and the stump of it covered by suture as if a ligature operation were done.

In salpingectomy or salpingoophorectomy one application of the clamp is often enough. Particularly is this true with the curved angeiotribe. If the broad ligament is infiltrated much or the tube very large two applications instead of one has seemed to me to be preferable.

In ovariectomy for large tumors the pedicle can usually be secured by one application of the instrument. Bleeding omentum also may be grasped with the instrument and cooked. I have not found a case of large uterine or ovarian tumor in which I have thought the ligature was at any point superior either as to ease of application or as a safeguard against hæmorrhage.

In appendectomy its superiority is readily recognized. My method is to transfix the mesoappendix at the cæcum with a pair of artery forceps and

side of the ribbon of the mesentery and through it across the intestine. With care the two intestinal ends are now sutured together with catgut covering in about a fourth inch of the bowel with each ribbon. After the sutures are tied an index finger is pushed from either side through the buried ribbons to restore the canal at that point.

In nephrectomy and splenectomy the pedicle is caught by the larger angeiotribe and the organ removed. This furnishes a better opportunity to see the cooking pedicle. I have not employed the angeiotribe in gastroenterostomy though Downes has thus employed it successfully in a few cases.

The advantage of the electrothermic angeiotribe of Downes in pelvic and abdominal surgery, as seen by the eye of experience, seem to be more reliable hæmostasis than by ligation; freedom from hæmorrhage during operation, the ease of its application in locations in which the use of the ligatures would be very difficult and uncertain; the greater security against dissemination in radical operations for malignant diseases, the ability to sterilize unclean areas before suturing as in intestinal and appendiceal surgery, lessening of the tendency to the formation of postoperative adhesions; the increased speed

in operations such as removal of the uterus, the appendages or the vermiform appendix and the greatly reduced amount of pain following operation.

The hemorrhages have been the danger of abdominal surgery of the bladder, rectum and ureter, the severity of gross pressure in its employment and the special care necessary to keep the paraphernalia in good working condition.

In these operations I have had two of hemorrhage subsequent to operation. I cannot believe the method of hemostasis employed is responsible in either instance.

In the first, abdominal panhysterectomy was done for cancer, suppurative inflammation of the appendages and a very distressing and dangerous disease. (Three weeks later, after being planned to both, died for two days).



FIG. 1.

The case ended with hemorrhage from the bowels, stomach and vagina. A mass was found in the pelvis; but hemorrhage became checked as was the pulse rate. The hemorrhage continued at intervals for two weeks without improvement and then the abdomen was removed without any loss of anastomosis, even local being refused by the patient. A large amount of blood escaped from the peritoneal cavity, engorgement through and through rubber tube drainage brought and thorough irrigation of the peritoneal cavity with salt solution was done after separation of adhesions followed. Later dress and were washed by hand with the drainage tube. Irrigation continued and dressing changed very slowly and this is a simple common method.

In another case, after vaginal hysterectomy for fibroids, the patient had a sharp, jagged hemorrhage, was within a mile more than on previous days. The hemorrhage was a Jones speculum revealed a continuous discharge from the left lateral fissure of the end of the vagina. The temperature was normal, but not normal. Daily irrigation for four weeks the result.

In both I am certain, cannot, and infection was responsible for the hemorrhage. In no other instance has hemorrhage occurred and I have the surgeon and were both built in the hemorrhage.

properties of the instrument. In one case a vaginal fecal fistula appeared after a vaginal hysterectomy and I was disposed to attribute it to the bowel having been injured in the grasp of the instrument. This accident, however, is not by any means limited to this method of vaginal hysterectomy.

On the whole I am very much pleased by the instruments and believe in the great superiority of this over the ligature method in such work as I have herein reported. It is not difficult to handle and little experience overcome all awkwardness attending its early usage. I commend it to the use of the surgeon as a distinct step in surgical progression. I feel I have given it an abundant trial in these 230 cases.

THE REVIEWER.

THE USE OF RUBBER GLOVES IN MEDICAL WARDS.

By THOMAS WOOD CLARKE, A. B., M. D.,

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"In these days of ready invention, a glove, I think, might be devised which should be impervious to fluids, and yet so thin and pliant as not to interfere materially with the delicate sense of touch required in these manipulations. One such glove, if such shall ever be fabricated and adopted, might well be sacrificed to the safety of the mother in every labor" (1).

The foregoing paragraph, from the writings of Sir Thomas Watson, published towards the end of the first half of the last century, is a strong plea for the use of gloves in the prevention of puerperal sepsis, and is probably the first mention of gloves in medicine. India rubber was then, however, in its infancy as an article of commerce, and it was not until nearly fifty years later that Halsted, in 1889, first made use of rubber gloves in his surgical technics (2).

In 1894 the subject became of general interest, and by 1900 most European and American surgeons were using gloves in their practice. So much has been written during the past ten years by such men as Mikulicz (3), Manteuffel (4), Keen (5), Robb (6), McBurney (7), and hosts of others, and the use of gloves has become so extensive in surgery, obstetrics, and pathology, that there is little left to be said upon the subject from the point of view of these branches of the profession.

The value of rubber gloves to the medical man, however, is so slightly appreciated, and their use in medical wards is so rare, that it may not be out of place to discuss the subject from the physician's standpoint.

As to the literature, the author has been able to find but one article which with any adequacy covers the medical aspect of the rubber glove, and this, though most excellent in itself, is inaccessible in London, and was obtained only through the courtesy of the author, M. Faure, of Paris (8).

The subject may well be discussed under three

headings: The protection of the patient from the physician; the protection of the physician from the patient; and the protection of one patient from his fellow.

It not infrequently occurs in the wards of a hospital that the so called medical operations must be performed. These are often undertaken with great trepidation, owing to the fear of sepsis, a fear well grounded, especially if the operator is a man who has done little or no surgery for several years. It is indeed a serious matter to introduce infectious material from the outside into a punctured wound and then seal up the outlet, and more especially so when this wound leads into the pleural or peritoneal cavity, as in the case of a paracentesis, into the meninges in lumbar puncture, or directly into the circulatory system in intravenous injections. Any procedure which will tend to lessen the danger in these operations is surely an advance in the facility of definite diagnosis of doubtful cases, and of treatment, and anything which lessens the liability to sepsis is such a procedure. The advantages of rubber gloves in operations, their ease of sterilization, their impermeability to bacteria (9), and their immaterial interference with touch and action have been so thoroughly proved by the surgeons that they must be accepted as facts requiring no further defence. And so, inasmuch as each year the rubber glove comes to be considered less and less as a desirable adjunct to a surgery, and more and more as a necessary one, just so rapidly its value should be appreciated in the medical ward, when the physician has to expose his patient to the dangers of sepsis.

During the past two years, while in charge of an active medical service in a general hospital, the author has made use of rubber gloves in performing infusions, venesections, intravenous injections, paracenteses, and lumbar punctures, and if he has no proof of having saved life by their use, he has at least the satisfaction of feeling that he has done everything in his power to eliminate danger.

Passing on from the safety of the patient we come to the protection of the physician and nurse in handling certain classes of cases, a subject which has an æsthetic as well as a practical aspect. Cases of obstetrical chancre, though happily not common, are of sufficiently frequent occurrence and grave consequence to deserve consideration, especially as the disease may be contracted when no suspicion of danger exists. The use of rubber gloves, worn during all vaginal and rectal examinations, is obviously a great safeguard against syphilitic infection, and their value depends entirely upon their practicability. By many it is contended that the gloves so materially interfere with the sense of touch that their use is a hindrance to the physician and a danger to the patient, and for this reason should not be worn. The author's experience, however, leads him to dissent from this opinion. By the use of a glove sufficiently thin, pliant, and well fitted, with the fingers short enough to prevent wrinkling at the tips, the interference with the tactile sense is so slight that it need hardly be considered. At first a finger trained to direct palpation may

feel strange when encased in a glove, but in a short time the brain learns to allow for the slight additional resistance, and then as much can be made out with a glove as without one. In fact, the author once heard an eminent surgeon say that he had used gloves for so many years that he thought that if he attempted to operate without them things would feel unnatural. Though it would probably take the average physician some time to reach this Utopian stage, he can approximate it in a remarkably short time, and if confused in his early efforts, he can with ease remove the glove and confirm his findings with the naked finger. Besides preventing the danger of infection the use of the glove obviates entirely those disagreeable clinging odors, which at times no amount of washing will remove, which make the physician, sometimes for hours after an examination, revolting to himself, burdensome to society, and obnoxious to his patients. The nurse, too, may be protected against infection by the use of a heavier glove to be worn while handling specific cases, giving inunctions, douches, enemata, etc.

It may seem at first sight that the use of thin, fragile gloves for the purposes stated would be a great additional trouble and expense. With a moderate amount of care, however, on the part of the physician, one pair of gloves of good quality will last for many weeks or even months, thus reducing the expense to a minimum. The technique of caring for the gloves consists of washing them immediately after use, boiling for a few minutes, drying thoroughly, care being taken to prevent burning, and powdering inside and out with talcum powder. This takes but a very few minutes of a nurse's time, and so prepared, the gloves keep in good condition for a long time, and are ready for use at a moment's notice for examinations, or may be boiled with the instruments when surgical cleanliness is required.

There now remains to be considered the protection of the patient from his fellows. Though most general hospitals have adequate provisions for the isolation of contagious diseases, in many of them cases classed as infectious must be treated in the open wards. It is in the latter contingency that the rubber glove is of value. This is especially true in diseases where the infection is carried through the excreta. The thorough disinfection of the hands of a nurse in a busy ward, whenever she gives a bed pan to a typhoid patient, or changes linen soiled by excreta, is a difficult procedure, and the most conscientious nurse may become a source of danger to other persons. If this is true of adult patients it is even more striking in a children's ward during the summer months, when the duties of the overworked nurses consist largely of changing the soiled napkins in diarrhoea cases, and preparing the children's nourishments. The infectiousness of enterocolitis, whether due to Shiga's bacillus or to some other organism, is sufficiently well proved, and enough ward epidemics of diarrhoea have occurred where the original supply of milk has been of undoubted purity to make it evident that contamination may take place in the ward. The thought is not a pleasant one of a nurse,

with hands moist as they passed from a fluid stool, giving a bluish or even a brown and better to a child. From the knowledge that she has washed her hands between times and disinfected them by a preliminary dip into a carbolic acid solution we may make the thought entirely agreeable.

During a recent epidemic of typhoid fever at the Lakeside Hospital in Cleveland, in January, 1901, a committee was appointed of which the author was a member, to see that the cause of the outbreak and to take necessary steps to check it. Among other changes recommended was the use of rubber gloves by the nurses when ever handling bed pans, soiled linen, or napkins of soiled and nervous patients. The committee was able to comply as possible. A large dish of carbolic solution was placed in each lavatory and in it were kept several pairs of heavy, strong rubber gloves, similar to those commonly worn by millwrights. To be made good measures they were several sizes larger than the hands of the nurses. When a bed pan was called for, or a napkin to be changed, the nurse rinsed a pair of the gloves in water and slipped them on her hands, a procedure requiring but a few seconds. The gloves were kept on until the stool was taken to the lavatory, broken up with a glass rod, if necessary, and saturated. The gloves were then returned to the carbolic solution and were soon ready to be used again. The objection at first raised of lack of time to carry out these innovations was soon dropped, and within a few days the nurses began to look upon the glove as a boon instead of a hardship. Not only was time saved by the reduction of the amount of scrubbing required, but it was soon found that the hands, previously kept cracked and sore by the frequent soaking in carbolic acid, were again resuming their normal healthy condition, and were kept clean with less trouble and without pain. This procedure has been used constantly for the past two years, and has given complete satisfaction.

In one other condition the author would suggest the possible value of the use of the rubber glove though he does not speak from personal experience. This is in that unhappy epidemic which occasionally breaks out in a children's ward, of vulvovaginitis, due to an organism resembling the gonococcus, which spreads rapidly to every female child in the ward, and may even require the temporary exclusion of girl patients. As this affection attacks infants as well as older girls, bed pan interference can be excluded. It is possible, but seems unlikely, that air contagion is the cause. One does not like to think of the hands of the nurse as the means of transmission, but we cannot forget this possibility. If this is the cause, surely the precautions taken with typhoid and diphtheria must now be so modified as to be of value in combating this disease as well.

It is the purpose of this paper to exhaustively cover the many uses of rubber gloves, but rather to point out a few ways in which they have been of value on the basis that the physician may not fall too far behind the surgeon, the chemist, and the pathologist in his appreciation of their uses. The paper is written from

the standpoint of the hospital ward, but much of the contents apply equally well to private practice.

The author wishes to express his thanks to Dr. George W. Crile, Dr. Edward F. Cushing, and Miss Katherine Lilly, of Cleveland; to the first for the reference to Sir Thomas Watson; to the second for many of the ideas here incorporated; and to the last for the exact technics of the care of the gloves at the Lakeside Hospital, and for her opinion of them from the nurse's standpoint.

References.

1. Sir Thomas Watson. *Lectures on the Principles and Practice of Physics*. London, 1843, ii, p. 340.
2. Thomas W. S. *Louis Hospitals Hospital Reports*, ii, p. 1, 1899.
3. Moreau. *Revue de chirurgie*, Paris, 1898, xviii, p. 104.
4. Manteufel. *Zentralblatt für Chirurgie*, xxiv, p. 553.
5. Keen. *Annals of Surgery*, xxvii, p. 224, 1898.
6. Robb. *Cleveland Medical Gazette*, xv, p. 553, 1901.
7. *Revue de chirurgie*, xxviii, p. 108, 1898.
8. Faure. *Revue générale de clinique et de thérapeutique*, 1901, viii, p. 707.
9. Fox and Schumann. *American Journal of the Medical Sciences*, p. 656, 1905.

WHAT MEDICAL SUBJECTS CAN BE TAUGHT EFFICIENTLY IN THE LITERARY SCHOOLS?*

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It is my personal conviction in the matter under discussion that it is hardly possible for medical subjects to be taught efficiently in the literary school. In explaining this position, I hope to justify my reasons for approving the general principle that the medical schools should not allow credit for work performed outside of their own walls. The discussion need not range over the whole field of medical instruction, for probably no one would think of bringing into consideration the distinctly clinical branches. We need not go beyond the basal medical sciences, anatomy, normal histology, embryology, physiology, physiological chemistry, pathology, bacteriology, and pharmacology. I have not included in my list general physics, general chemistry, and general biology, for I believe that the medical school of the present day ought not to be called upon to offer instruction in such fundamental subjects. Their proper habitat is the college. For the student of medicine they stand in much the same relation to his professional training as mathematics and his mother tongue, and their elements should always form a part of his equipment when he undertakes his special study.

Confining myself then to the eight sciences named, my conviction is based partly on general and partly on special considerations. In formulating these I may be presenting matter with which the members of this association are already familiar. Even if this be true, the reiteration of arguments, if they be sound and not yet answered, seems to me not without value in a

*Presented at the meeting of the Association of American Medical Schools, held in Pittsburgh, Pa., October 10, 1905, and a discussion of the question.

problem which is so closely connected as this with the maintenance of a high standard in medical education.

My first general argument is based on the fact that the object of the training given by the college is fundamentally different from that given by the medical school, and this difference connotes a difference in method. The difference in object is that which always exists between the general and the special. We send our boys to college to develop them intellectually, physically and morally, to quicken their memories and imaginations, to make them sympathetic, to give them high ideals of character and ambition, to give them the culture that the well bred man of today is expected to possess, to enable them to develop helpful and stimulating friendships, and to make them so efficient bodily and mentally that in whatever sphere they find themselves later in life they will do worthy work. We send our boys to the medical school that they may acquire an exact knowledge, morphological and physiological, of the human body in health and disease, that they may learn to know when the body works rightly and when wrongly, how to prevent disease and to cure it when present, how to relieve suffering and to save life. The college gives the general development that is helpful in obtaining the special equipment and making proper use of it. That the ends of the medical training may be secured, it is above all things essential that the knowledge acquired by the student in the school of medicine be exact, specific, abundant, and always at the service of the individual. During no other four year period of his life does he fulfill these requirements of learning so well as during the four years of his life in this school. In these respects the training of the college is markedly inferior. The baccalaureate, fresh from his college tuition, on entering the medical school, is struck by the difference in method. In conversing with students of medicine I have met with unanimity in this regard. The demand for exactness in minute detail now required of him is something to which he has not been accustomed. Not rarely it seems to him at first unnecessary and pedantic, and he rebels against it. Later he comes to realize how essential it is for his ultimate success, and his method as a learner changes. The four years of medical study present a light task for no one. Undergraduate days in the college may have been full of ease; the days of the medical student are never free from constant and hard labor. The former were dedicated to the general, the latter to the special, and the methods of the two are far apart.

My second general argument in the proposition under discussion is based upon the nature of the subject matter that should be offered the student of medicine in the sciences named. For purposes of medical instruction ought these sciences to be considered as pure or as applied sciences? For purposes of medical instruction, I answer, they should be considered as applied sciences. No one can appreciate more strongly than I the need of a fundamental grounding in pure science by the prospective physician; it is the alpha of his preparation; but it should be ante-

cedent to his entrance into the school of medicine. As a medical student the idea should be held before him constantly that medicine is an applied science. By this I do not mean to advocate narrowness. It is true that medical anatomy, medical physiology, and medical chemistry are terms which too often signify limited conceptions. But there is nothing in the phrase "applied science" which prevents its subject matter from being treated in a broadminded and liberal spirit, which promotes a wide outlook and stimulates to research. With such a spirit only have I sympathy, and in such a spirit our students of medicine should be taught the relation of the knowledge which they acquire daily to the practical needs of the practitioner. Theoretically this can be done in the college; practically it is not done there. It is reserved for the instructor in the medical school, who is constantly in the clinical atmosphere and with whom the clinical application of the scientific fact is not merely a remote obligation.

The special considerations which I entertain regarding the proposition in question pertain to the individual sciences, and these may now be considered seriatim.

Anatomy affords a striking example of the characteristic method of instruction of the medical school. Beginning with the bones of the skeleton, the student's knowledge of anatomy must be exact, specific, and detailed. I venture to predict that no member of this conference is acquainted with a course in human osteology given in a college of arts and science from which the student comes so well equipped in any degree as the average medical student at the end of his anatomical training. The college undergraduate would flee from such an infliction. These considerations apply with equal force to the study of the soft parts, and they would there also appear conclusive, even although the difficulty of obtaining and handling such anatomical material would seem to exclude such study from any but the medical school. The substitution of a course in the comparative anatomy of vertebrates, or the anatomy of a single mammal, such as a cat, in place of a course in human anatomy, is out of the question. Such courses are among the best as introductory to the study of human anatomy or of experimental physiology, but their object is broad and general, often with phylogenetic considerations in view, and exactness in detail is neither demanded nor desired. The medical student who is to treat the diseases of the human body must first learn the structure of the human body.

The same reasoning pertains to the question of normal histology. Normal histology may be said to be studied for three purposes: First, with the object of learning the microscopic structure of the organs and tissues; secondly, as an aid to the study of physiology; and, thirdly, as an introduction to the study of pathological histology. For the first and second purposes a course in general mammalian histology may perhaps be adequate; for preparation for the study of pathological histology, an exact knowledge of the human tissues is indispensable. It is the human

The medical school is the proper place for medical instruction. We should keep the latter within our own hands. If it needs improvement, let the remedies be applied by us. The medical course, now that we have extended it to four years, should not be encroached upon by pressure from without or within. It may perhaps be further lengthened to advantage, but there are no adequate arguments for abbreviating it. We profess to demand four years of medical study; we should be satisfied with no less. If we must shorten the whole period of academic and professional student life, let the candidate for the A. B. or the B. S. and the M. D. degrees count toward his baccalaureate his first year in the school of medicine, or even his first two years, which Columbia now permits, but let us not allow the

reverse. A year of so called medical instruction within the literary college is not now, and probably never will be, the equivalent of a year in the medical school.

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THE CAUSES OF INJURIES AMONG THE INSANE.

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Periodically the public is treated to a startling and gruesome account of brutalities inflicted upon insane patients in State hospitals. One can only imagine the alarming effect such an account must have upon the hundreds of friends and relatives of our patients. Think of the anguish of the wife or mother, whose husband or son has been sent there for treatment, the misery of the husband, when he pictures his wife torn from her little brood at home, perhaps suffering ill treatment at the hands of brutal nurses. The inconsistency of the charge of broken bones, due to rough handling or ignorance of attendants, of bodies of patients sent to their friends covered with bruises, would convey the impression that hospital attendants are capable of almost every crime in the calendar, and are a lot of unspeakably hardened wretches. These intemperate and sensational accounts of distorted facts, and imagination run riot, should be met by the strongest denial on the part of those whose position and authority entitle them to speak with certainty and full knowledge of the subject.

I know of none more eminently fitted to allay these alarming fears than the general medical practitioner. Coming in close touch, as he does, with the families and friends of patients under treatment in hospitals, and having had many of them at one time or another under his care, he can, from his knowledge of the episodes of excitement and depression inseparable from insanity, do a tremendous deal of good in allaying their fears, and disseminating a rational view of the nature and outlook of cases of insanity, and the modern methods of care and treatment in State hospitals of the present day.

The class of cases which give rise to these eruptive newspaper notices are, most frequently, those of dementia paralytica, better known as paresis or softening of the brain. These, from the day of their admission until their taking off, are a constant source of care and anxiety to the hospital staff. Alienists of experience are quite familiar with the trials and tribulations attending these cases, but the general practitioner knows little of them—the majority, indeed, have probably never seen a case in the last stage of mental and physical prostration.

The general parietic usually makes his debut at the hospital in a defiant and turbulent mood, or with a glorious air of exaltation, and with the unmistakable intention of being a disturbing element. He comes not "unheralded and unsung," for he has probably wrecked his home, or, preferably, a restaurant, has received the usual amenities at the hands of the police, has been an un-

willing ambulance case to Bellevue, and has undergone a temporary, but enforced, deprivation of his liberty and inclinations. This short but stormy experience has left upon him reminders in the shape of bruises and abrasions, so it is not surprising that his friends, on the occasion of their visit, scout our explanations and threaten to go to their newspaper or politicians.

From this time on his decline is rapid, varied by maniacal excitement, destructiveness, status epilepticus, and filthy habits; every time he strikes the wall or bed he sustains an injury; if he be given hydrotherapy, or local treatment, he resists and receives bruises on the arms and chest. He opposes every effort in his behalf, and if he slips on the floor he sustains an ecchymosis or fracture, according to the degree of circulatory disturbance and trophic changes, he is more or less afflicted with bed sores.

Fractures and injuries occur in these cases despite every precaution. Special nurses by day and night are provided them; the most specific instructions are laid down for their care, and yet, to your chagrin, you find yourself suddenly face to face with half a dozen fractured ribs.

Now as to the causation: The bones in dementia paralytica undergo rapid decomposition, the inorganic constituents are reduced and the organic increased; the ribs, especially, become very brittle, due to great deficiency of osseous tissue; in the bony structure the Haversian canals may be almost obliterated by an oily deposit; in addition to the sudden reckless violence of this class you have a diminished reflex activity and diminished sensibility in the limbs, with a contributory factor of the inattention of the patient; he makes a false step or lunges abruptly against another patient, due to his ataxia, the nervous current is dull and sluggish; excitatory acts tardy, therefore the muscular contractions are too late to guard against the injurious falls and blows.

The dulness of common sensation lessens the pain of fractures and masks their presence. I have known a patient to have several fractured ribs for two or three weeks without complaining or heeding them in the slightest. Another patient stumbled over the door mat and fractured his femur with a report like a pistol shot, and then attempted to walk on the stump protruding through the tissues, so little was it heeded. A parietic has been known to fall upon his back on a grass lawn, fracturing twenty-one ribs, and survive it for many months without complaint or pain. There is no tendency toward reparation in these cases, and at autopsy the line of fracture is found clean cut and has a gummy, oleaginous appearance. A case came under observation some time ago of a heavy advanced parietic in whom several ribs were fractured while raising him sufficiently to pass a clean sheet under him. These cases are usually submitted to the coroner, and the jury's only light upon the subject is obtained from that official, whose instructions, according as he is a medical or non-medical man, may have the result of bringing forth extraordinary presentments and recommendations.

1. When help comes suddenly, unexpectedly, from the very last stage of physical weakness, mental failure, distress, and befouling him in a surprising manner; at another time controlling a patient who in blind fury is bent upon self-destruction and everything else. He may be a hurly-burly person, a person from the theatre, now surrounded by one pleased not more than the other. During a parietic furor the patient is a danger to himself and others and being helped but the time with the strength as well as the good sense. It calls for the greatest tact and judgment in controlling him and preserving his life. The doctors of a hospital deprive them of judgment and that is why they may make an unwise decision as to the best patient to have in the ward. The nurse who sees it all and look as calmly as he can. Some have occupied much better positions in the old and the new literary world. "But not their will" consents to this. In all in all, they deserve a humble

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EXPLORATION OF THE CHEST AND VITAL SIGNS IN BEGINNING PULMONARY TUBERCULOSIS.*

By J. J. O'HARA, MANNHEIMER, MO. 63091

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The diagnosis of beginning pulmonary tuberculosis is a difficult matter. It must take into consideration every detail in the previous and present history of the patient, it must attach importance to minor symptoms and combinations of symptoms in the general status, it requires a most minute exploration of the chest, and must take cognizance of signs that seem trifling to the experienced, but which mean a great deal to him who has in mind the slight anatomical changes which incipient tuberculosis produces in the lung.

By inspection and mensuration we ascertain the following points: The shape of the thorax, local swelling and retraction; the circumference of the chest and its relation to the height of the patient, which should not be less than one-half; the maximum expansion, which should be at least 5 cm.; the position of the clavicles, the acromial ends of which should be on an even plane and higher than the sternal ends; the movements of both sides of the chest, which should be compared by looking over the shoulders of the sitting patient, or from below upwards, or tangentially across the chest, and by watching the angles of the scapulæ. If one supra-clavicular space is sunken in but moves fairly well, while the other is not sunken but lags behind in respiration, the first one probably harbors an old apex lesion, and the second a recent one (Turban). We watch for the diaphragm phenomenon and find its amplitude diminished on the diseased side. When not visible in the ordinary way, the fluoroscope will reveal it. It seems as if the organism had the tendency to spare a diseased lung, especially one recently diseased, by limiting its excursions. Thus in recent disease of the right apex, the anterior margin of the lung retracts, laying bare a greater part of the right ventricle, giving rise to dullness over the lower sternum.

By palpation we ascertain the expansibility of the various parts of the chest. For comparison we apply the hands so that the finger tips are fixed at the patient's sides and the radial borders of the thumbs meet in the middle line of the sternum. The hands being kept rigid the patient is directed to take a full inspiration when the distance of departure of the thumbs from the middle line indicates the extent of the expansion of either half of the chest (Hutchison and Rainy). To test the expansion of the apices we stand behind the patient, fix the thumbs on the vertebræ and place the finger in the supra-clavicular fossæ while the patient breathes deeply. (One author claims to be able to detect the diseased apex by the diminution of the tonus on comparative palpation in the manner just outlined. If we watch the rise and fall of the chest piece of Bowles's stethoscope during auscultation, we get an impression of the expansibility of the parts both with the eye and with the hand.

Now in regard to percussion and auscultation I wish to make a few general remarks. The art of

percussion and auscultation as well as our knowledge of physical signs have made little progress during the last decades. At present we have arrived at a stage where we do not understand one another when we speak of certain physical signs. We have different names for the same sign and when it comes to the interpretation of that sign we are absolutely at sea. This is a bad state of affairs. We need a uniform terminology stating as nearly as possible what the various signs sound like, and a more thorough study of the mechanism of their production by studying the corresponding lesions on the cadaver. Everybody percusses differently; everybody prefers his stethoscope. American teachers teach finger finger percussion and the use of some form of binaural stethoscope, and of the ear.

Most physicians have accustomed themselves to one method to the exclusion of others. Now, I do not wish to advocate any particular way of percussing and auscultating, but I want to say this: Where physical signs are marked, pronounced, outspoken, any method will reveal them; but where they are not marked, not pronounced, not above dispute, or, in a word, doubtful, there we should vary our methods and try to find with the many and various modifications, what we do not find with our everyday routine. For instance, to percuss the front part of the chest below the clavicles, let the patient sit erect on a low backed chair or stand up. If there is any doubt as to the percussion note, let him stand against a wall or a door, or have him lie on a lounge or examining chair, and percuss the right side by standing to the right, the left side by standing to the left of him. Here as elsewhere, in doubtful cases, use not only finger finger percussion but also pleximeter finger or pleximeter hammer percussion, also touch percussion and auscultatory percussion. One form of the latter, for instance, is the *transsonance thoracique*. Percussing on the clavicle and listening in the supraspinous fossa gives a short and dry note in case the corresponding apex is indurated. The *Klangleitung durch die Lunge*, recently described by Van den Velden, is based on a similar principle. The physician listens in the supraspinous space, while an assistant or the patient himself makes a very light finger finger percussion below the clavicle.

For the detection of amphoric or metallic resonance, nothing is better than the so called pleximeter rod percussion or percussion with two coins. Percuss both during inspiration and during expiration; for comparison, of course during the same phase. Compare interspace with interspace, rib with rib, and use light and strong blows.

This does not mean that we ought to go through all these modifications in every doubtful case. In fact, one is apt to get confused by percussing too long over one area. It is therefore best to consider the first impression as the correct one. On the other hand, if we find normal percussion note over a certain area, but signs of disease by subsequent auscultation, we should not hesitate to re-percuss and see whether our previous opinion needs revision. In order to confine the stroke to a smaller area, I practice percussion on the hooked finger. It imparts very well the sense of resistance. It comes out best with the patient in the recumbent position. I have not found this method mentioned anywhere. Although I employ these methods in doubtful cases, I

wish to state that I consider the time honored and well tested finger percussion as the best all around method.

The only satisfactory way to percuss the apices is to stand behind the sitting patient, who keeps head and shoulders slightly bent forward, absolutely quiet and symmetrical, and the hands resting on the knees. The most reliable method is the one recommended by Krönig of Berlin, as far back as 1889. It takes

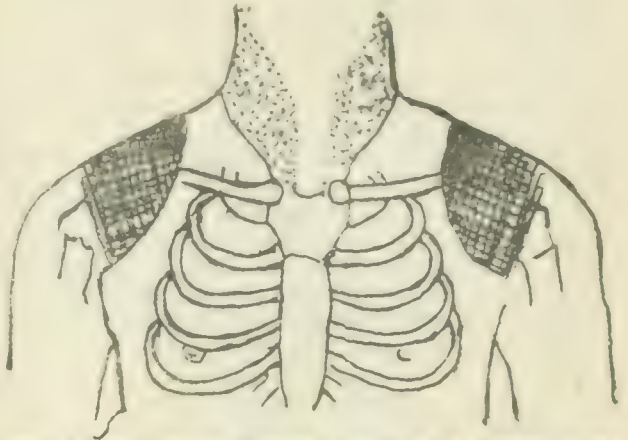


FIG. 1.—The anterior resonant areas of the normal apices (after Krönig).

notice of the simple anatomical fact that the apex of the lungs forms a tapering cone extending above the upper aperture of the thorax, having a clearly defined median and lateral border both anteriorly and posteriorly. This entire part of the lung can be mapped out as a continuous area of pulmonary resonance from the clavicle upward through the supraclavicular space across the free border of the trapezius muscle into the supraspinous fossa. Its narrowest point, the isthmus, measures about four centimetres, and lies one centimetre below the free border of the muscle in front. The distance of its highest point in the back is five to six centimetres

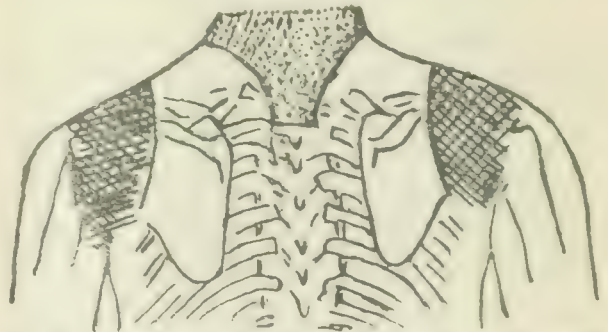


FIG. 2.—The posterior resonant areas of the normal apices (after Krönig).

apart from the spinous process of the first dorsal vertebra. Its boundaries are illustrated by the accompanying cuts.

Lightest percussion must be employed, the finger applied at right angles to the clavicle and parallel to the lines expected. It is best done during quiet breathing. The boundary lines are better appreciated by percussing from the dull towards the resonant area. This method, which, by the way, is not described in American textbooks, determines as nearly as possible the exact size of the apex, its

ment as well as its height. It requires patient practice. You may find it difficult to outline the one or the other border. Some people it is easier to perform than others. If possibly the patient with lightest lungs, those persons, say, with slender fingers, slender bones, slender or small percussion and vary the force of the stroke.

The value of this determination will be apparent from the following considerations. The consolidation found in the apex is almost invariably tubercular, but not only so, but evidence of an old process. But even in the absence of any irritation or infection, and when there are no cheesy deposits, the lungs become thick and thereby increase the weight of the entire apex, which is the most important of the entire apex, which is the most important of the entire apex. It is situated in the apex. This condition manifests itself in an appearance of the boundary lines, as determined by the method of percussion. In unilateral disease the difference in the size of the two apices will be apparent. Of course we cannot say from the results of this examination what the nature of the disease process is and whether it is old or recent.

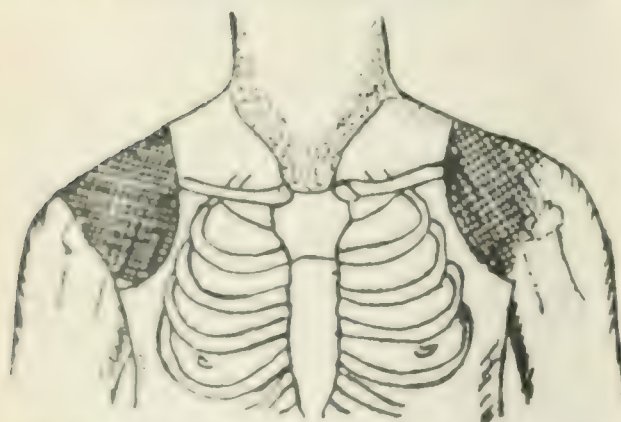


FIG. 1.—Illustration of the right anterior resonant area from consolidation of the right apex (after Weitzsaecker).

On deep inspiration the diseased apex will show a diminution of its expansibility. This symptom can be recognized by a method practiced and described by Dr. Meyer. It consists in continuous percussion at one point while the patient is making one or two inspirations and expirations. The supra-clavicular and the infraclavicular space or the clavicular space are struck in rapid succession as much as twenty-four to thirty times by light and even strokes while the patient is breathing in and out. The resultant series of sounds is more like in character in one or the other, and by comparing the two sides the difference of the diseased side will be recognized. Those who find it difficult to appreciate the difference of sounds should make comparison by percussion, deep quiet breathing as well as at the height of inspiration and at the height of expiration. The sound is more or less, while diminishing its volume, and thereby the character of the surrounding lung tissue. The given due to the changes in the percussion sound which becomes higher in pitch, shorter in duration, and finally tympanic, or dull tympanic. The changes in the character of the percussion sound, the striking of the apex, and the

diminution of its expansibility are the earliest signs noted by percussion.

When the tuberculous process advances below the clavicle, the percussion note very commonly becomes hyperresonant or vesiculotympanic. The loudness of this note must not be taken as normal, but should in itself arouse our suspicion. Light percussion or percussion on the hooked finger in the recumbent position reveals the additional dull quality and increased resistance. Compensatory emphysema around a healing or healed lesion may obscure the occurrence and interpretation of all these signs. Then doubt can arise as to which is the diseased side. Auscultation will help to clear this doubt, and the question can usually be settled by a consideration of the anamnesis and the complete status.

How large must a focus be to be amenable to detection by percussion? Oestreich's very careful and extensive observations on cadavers have shown that a single solid focus situated underneath the pleura must have at least the size of a cherry, and a conglomeration of foci each the size of a pea or cherry pit.

Although the art of auscultation is in my opinion easier to learn and master than percussion, there is less consensus of opinion when it comes to the description and interpretation of auscultatory signs. Auscultation furnishes the earliest signs in beginning pulmonary tuberculosis, and it is especially in the area of the ramus apicalis posterior of a bronchus that the first changes are found. They consist in a change in the character of the breath sounds and not in the appearance of râles, a fact which, in spite of all the occasional statements to the contrary, cannot be too strongly emphasized. Whoever waits for râles before he makes up his mind that he is dealing with a case of incipient tuberculosis misses his or his patient's chance as much as he who waits for outspoken dullness, and makes as great a mistake as the one who waits for the appearance of bacilli in the sputum. The normal vesicular murmur becomes rough, e. g., uneven, impure. Instead of being heard as an even continuous breezy sound, it will be perceived to consist of a series of short puffs, following each other in rapid succession. It reminds one of the noise made by the interrupter of a Faradic battery. It may be loud or low; it is heard principally during inspiration, at the apices, and presupposes areas of normally functioning tissue permeated by small foci of consolidation. You observe that this variety has absolutely nothing in common with the so called harsh, sharp or increased vesicular breathing, which our indefinite nomenclature is apt to confound it with. Rough breathing conveys quite a definite acoustic impression and has a pretty definite interpretation. The signs nearest to it are interrupted, cog wheel or jerky breathing and râles. Theoretically, one may construct the transition of rough breathing into fine moist râles by assuming that the single puffs become stronger and the intervals between them longer. The term rough breathing in the sense just described does not appear in American textbooks. It is known in Germany as *rauhes Atmen* and in France as *respiration rude*.

Interrupted breathing is one of the easiest signs to recognize. It may be heard over the entire lung in patients with pleuritic pain, in excited, embarrassed or shivering patients, and is then of no sig-

nificance. Pathologically, it is produced in the border districts between large areas of diseased and normal or partly normal lung, where the latter are inflated in jerks. These conditions are much coarser than those giving rise to rough breathing, from which it differs absolutely in character. It is rare in the apices, most frequent below the clavicles in apex disease and is usually at the same time increased in intensity.

The second most common change in the respiratory murmur of a tuberculous apex is a diminution of its intensity. It needs no further explanation. It may be the consequence of pleuritic thickening, but is more often due to the narrowing of the terminal bronchioli by tuberculous invasion. Even in more advanced stages it is surprising to find diminished breathing over large areas, where, from the presence of well marked dullness which is not caused by pleural involvement, we would expect bronchovesicular or bronchial breathing. This is due to the fact that in some forms of tuberculosis many bronchial lumina are obliterated by progressive cicatrization.

In our textbooks stenosis of the small bronchi by catarrhal swelling is held responsible for a large and varied array of auscultatory signs. It is remarkable what changes it is supposed to produce. I find that not only the rough, the diminished, and the interrupted breathing are ascribed to it, but also the increased vesicular, the bronchovesicular breathing, prolonged expiration and all sorts of râles.

You will agree with me that this universal explanation for such diverse phenomena is very unsatisfactory. In drawing attention to this question I regret to be unable to shed any light on it, because I have not had sufficient opportunity to compare clinical signs with anatomical findings. It is of course understood that much discrimination has to be used in explaining ante mortem physical signs by post mortem findings.

To recapitulate, the two earliest and commonest signs in beginning pulmonary tuberculosis are rough and diminished breathing or a combination of them.

Increased vesicular breathing is easily appreciated; it is common in diffuse bronchitis and here supposed to be due to the swelling of the mucosa of the fine bronchi. It is often heard over tuberculous apices, especially over such that harbor old quiescent foci, where catarrhal symptoms are lacking. Here we must ascribe it to increased function of the normal tissue; hence the name supplementary or vicarious breathing. It may be heard over healed lesions for years.

Transition, composite or mixed breathing are those types which partake of the character of vesicular and bronchial breathing and are commonly called vesiculobronchial or bronchovesicular. It is heard over areas partly consolidated or compressed and partly normal. How large the consolidation must be is not known. Suffice it to say, it means incomplete consolidation, a condition so frequently produced by tuberculous disease. It is sometimes the only sign by which small deep seated consolidations or cavities betray themselves. It is normally heard where the large bronchi are closest to the surface, as in the interscapular space. In this locality, it is most marked in swelling of the posterior mediastinal lymph nodes, together with local dullness. These tumefactions ought to be suspected, if in

addition to the signs mentioned, there is marked spinalgia, e. g., tenderness over the spinous processes of the upper dorsal vertebræ or to the side of them, if there is intercostal pain or fixed pain in the back on deglutition, and paroxysmal cough resembling pertussis. The x ray picture reveals the shadows of packages of cheesy or calcareous lymph nodes.

Bronchovesicular breathing is apt to be confounded with pure bronchial breathing. The characters of the latter are well known. It may be overheard unless the ear be applied to the chest, or the patient made to cough or to count rapidly in one breath, which manœuvres are usually followed by a deep inspiration. It is never as loud over tuberculous infiltrations as it is in lobar pneumonia because the former are never so massive and homogeneous as the pneumonic. It may sound near or distant. It means complete consolidation or compression or cavity formation.

Prolonged expiration is one of the attributes of bronchial breathing, usually part of the transition forms and often accompanies increased vesicular breathing. It is most pronounced over both lungs in an asthmatic attack, and very common in emphysema with bronchitis. If localized at one apex, it is at the same time rough vesicular or increased vesicular, when the tuberculous process is in its beginning, but it becomes very loud and drawn out, bronchovesicular or bronchial, when the process goes on to cicatrization and compensatory emphysema.

I refrain from considering amphoric and metallic breathing, as I have refrained to consider amphoric and metallic percussion note and the various changes of note as not occurring in early tuberculosis.

Râles are produced by the presence of air and fluid or semi-fluid masses in the respiratory passages, or by catarrhal swelling of the mucosa. The term dry râles ought to be dropped; it does not convey any definite meaning. We had better designate them by the acoustic picture they remind us of, such as wheezing, whistling, humming, squeaking, etc., most of which are comprised under the name sibilant and sonorous râles. I have occasionally heard a short whining during coughing as the only suspicious sign in an apex. Intermediate between these and the moist variety are those adventitious sounds which are called crackles and clicks. Their production is not understood. They may be of catarrhal or pleuritic origin, or be due to the stretching of the diseased tissue itself. They are not at all rare in tuberculous apices; they are even called tuberculous râles by some authors.

Moist râles are large, medium or fine. In apex disease they are usually fine. When large, they mean cavity formation. They may then be at the same time consonant or ringing or, as some authors call them, gurgling. This distinction between consonant and nonconsonant râles is not sufficiently brought out in American textbooks, and not sufficiently appreciated by many practitioners. Râles become consonant in infiltrated or excavated areas. They sound near to the ear. They have the same significance as bronchial breathing and bronchophony. It sometimes requires a cough to bring them out clearly.

In searching for râles, auscultate beyond the mar-

REPORT OF THE DEPARTMENT OF PULMONARY TUBERCULOSIS (OUT PATIENT) OF THE R. I. HOSPITAL FOR FIVE YEARS, ENDING JUNE 30, 1905.

By JAY PERKINS, M. D.,

AND

PEARL WILLIAMS, M. D.,

PROVIDENCE.

The department of pulmonary tuberculosis at the Rhode Island Hospital was opened July 1, 1900, hence it seems fitting that a report for five years should be given. The out patient department at the Rhode Island Hospital consists of medical, surgical, eye and ear, nose and throat, gynaecological, orthopaedic, neurological, dermatological, and genitourinary clinics, besides our own. The patients are distributed to the various clinics by a lay officer. Nearly all of our patients are referred to us from the other clinics, a few being sent to us directly from the outside or by the admitting officer.

We feel that we have had sufficient success to more than justify the establishment of a special department for pulmonary tuberculosis. The diagnosis and treatment of pulmonary tuberculosis is not easy and in a large general clinic the necessary time cannot be given to the doubtful cases. In the days when the treatment consisted of prescribing creosote or cod liver oil the cases could be treated rapidly, just as they could be diagnosed rapidly when the diagnosis was made from a chronic cough, emaciation, chills and night sweats. To-day, however, when the individual and not the disease is treated, when we must inquire into and direct the details of the daily life, as well as correct the various functions of the body, much more time is needed for one patient than a large general clinic can give, especially as in many instances the patient speaks and understands but little English. The general medical clinic can treat about thirty cases while we are treating ten or twelve.

The clinic was started contrary to the wishes of the out patient physicians, but when it was established we had their assistance and have worked in perfect harmony with them, almost all of our patients being sent to us from the medical, and nose and throat rooms. The present plan was adopted for two reasons. The objection which the medical men had to the establishment of the clinic was that they wanted to see these patients, so by having them go to the medical rooms first they had this opportunity, and, further, the janitor who admitted the patients could make only an extremely rough selection, and as we had our clinic only two days a week at first, and even now only three days, many of our patients would have to be sent to the medical rooms anyway or else many nontuberculous cases would be sent away on the days we were not there to come again later though they needed immediate treatment. So the present plan of having the selection of our patients left to the out patient physicians was adopted and, for the most part, has worked well.

When the patient has been referred to us we take his history, but make our recorded history brief. In this class of patients an accurate family history cannot be obtained and we pay but little attention to it

further than to ask if any of the immediate family has had lung trouble, and if they have lived, worked or been associated with anyone having a bad cough. Although it is difficult to get full information on this subject we have records of forty-two patients giving direct history of close association in home life or at work with tuberculous persons. We have been impressed with the number of patients giving a history of malaria, pneumonia with slow recovery or pleurisy within a year. After getting the history, a thorough examination of the chest is made and then the patient is given a wide mouthed bottle enclosed in a pasteboard box in which to send us some of his sputum for examination before coming again. The patients which are manifestly tuberculous we instruct at the first visit as to the dangers of contagion and their avoidance, methods of obtaining fresh air, as to proper food and general details of life, endeavoring to lay stress on the things they can do and being less rigid on the things they cannot carry out, however desirable these may be. We also provide them with sputum cups furnished by the State Board of Health and give them a leaflet entitled *Directions to the Sick* which briefly explains preventive measures as regards tuberculosis.

To patients where there is a doubt as to tuberculosis being present we give more general directions and wait until we have examined the sputum before giving thorough instructions. When the sputum has been examined and tubercle bacilli found the patient's name and address is given to the city superintendent of health if the patient lives within the city limits and an inspector of the department calls and again gives instructions as to danger of contagion and methods of prevention, leaves literature concerning the disease and paper sputum cups, more of which the patient can obtain of us, or of the district nurse or at the City or State Boards of Health.

As we have said, our treatment of the patient is to treat the individual. We have no special treatment. For the most part we carefully avoid creosote and cod liver oil, try to obtain good nourishment and increase the digestive and assimilative powers, but not by emulsions or vegetable juices. We have no nurse at our disposal to call upon all patients at their homes and instruct them. But the city is now all covered by district nurses and such patients as we think they can assist by regular nursing we have them call upon; also when patients can no longer come to the hospital and are very poor we frequently call upon them ourselves and have some member of the family report to us their condition and come for medicine.

The whole number of patients referred to us for examination for the five years ending June 30, 1905, is 1,088. Of these we have made a positive diagnosis of pulmonary tuberculosis in 380 cases. Of these, tubercle bacilli were present in 336, 32 cases neither sent in sputum for examination nor returned for treatment, but were all in an advanced stage of the disease. In 11 cases a single examination showed no bacilli and in these cases also the patients did not return, but the signs were so definite that it hardly seems possible for the disease to be other than tuberculosis. One case, to be mentioned later, gave a positive tuberculin reaction. In 18 cases the first examination of the sputum was negative, but subse-

quart examination showed the bacilli. In one case the tubercle bacilli were first found on the fifth examination and in several cases on the third.

There were many probably tuberculous cases not here reported who received from the immediate neighborhood and failed to apply for treatment and who, being poor, and not realizing the importance of further observation, failed to return.

The following table gives the statistical data as to birthplace, residence, age, etc., of the unquestionably tuberculous cases.

| Birthplace | Residence | Age | Sex | Occupation | Duration of illness | Result |
|------------|------------|-----|------|----------------|---------------------|--------|
| Italy | Providence | 20 | Male | Factory worker | 1 year | Death |
| Italy | Providence | 20 | Male | Factory worker | 1 year | Death |
| Italy | Providence | 20 | Male | Factory worker | 1 year | Death |
| Italy | Providence | 20 | Male | Factory worker | 1 year | Death |
| Italy | Providence | 20 | Male | Factory worker | 1 year | Death |
| Italy | Providence | 20 | Male | Factory worker | 1 year | Death |
| Italy | Providence | 20 | Male | Factory worker | 1 year | Death |
| Italy | Providence | 20 | Male | Factory worker | 1 year | Death |
| Italy | Providence | 20 | Male | Factory worker | 1 year | Death |
| Italy | Providence | 20 | Male | Factory worker | 1 year | Death |

Examination of the chest, 111, outside Providence, 69.
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One of the discouraging things in our clinic has been the incomplete control of the patients. This is true of any out-patient clinic among the poor, but it seems especially unfortunate in this disease, because early diagnosis and the regulation of the daily life mean so much both for the patient himself and for his associates. People in general, however, and especially the class which applies for free treatment, are not yet educated to the fact that the practice of medicine consists of anything except the giving of drugs. On account of the large number who have never seen in their system or returned for further treatment after being told that they have tuberculosis we are now making a study of how to retain better control of the patients. It is a question whether our frankness with them at the start would not be preferable, inasmuch as so many of them immediately give up all hope as soon as they learn the nature of their illness or else seek some of the advertised cures. It is also a question with us whether the visit of the health inspector following so closely upon their visit to the hospital intensifies their discouragement as to keep them from applying further. Is it better to impress upon this class of patients the full meaning of their disease at once, at the risk of completely losing control of them, or to endeavor to keep them under observation and education during the process?

Any medicines which are needed are given patients at a nominal price or, if they cannot pay that, they are given free, but that which, in many cases, is needed more than medicine, proper nutrition, we have been unable to supply. If we had, this would help us to keep under observation many who now fall away.

Another drawback to our clinic has been a lack of facilities for seeing for those who needed either sanatorium or hospital treatment. The Rhode Island Hospital takes into the house no cases of pulmonary tuberculosis. It is known that they are tuberculous. When the Hospital established its tuberculosis clinic at 110½ Green we have secured accom-

modations for a few there, but they have a long waiting list for any vacancies which may occur. Some of the earlier cases have, in accordance with our advice, returned to their parents or gone to the homes of relatives or friends outside the city. A number of the foreign element, especially those from Italy or the Cape de Verde Islands, have, in accordance with our instructions, returned to their native countries. With the opening of the State sanatorium the earliest cases will have a better opportunity for life, and here is where the advantage of being associated with a general medical clinic will manifest itself, in that we have referred to us a great many cases which would not apply directly to a tuberculosis clinic, there being no suspicion of tuberculosis until their examination in the medical clinic.

We have attempted to make no classification of patients by occupation because so many patients of this class change their occupation so frequently, but we have seen quite a number from the jewelry shops, which are so plentiful in Providence, and it is from patients of this class that we get our earliest cases. Of the poorest patients, the slum element, it is almost unknown for them to apply for treatment sufficiently early to be suitable cases for a sanatorium, even from the point of view of the stage of the disease alone. While we have not been able to follow as many of the patients as we wish we have been able to keep under observation enough to show that much can be accomplished even by an out-patient clinic, as the following cases instance:

CASE I.—Miss L. applied for treatment July 9, 1900. She was 16 years of age, born in Scotland and previous to applying at the hospital had worked in a woolen mill. She had had a cough for a long time and had lost considerable flesh and strength. There was dulness, bronchovesicular breathing and increased vocal resonance and fremitus at the left apex. Tubercle bacilli were numerous in the sputum. She was intelligent, and, though living under poor conditions, endeavored to carry out our instructions. Her general condition and strength improved, but in the winter of 1902-3 she developed a pleurisy at the base of the left lung and for a time was quite sick. She, however, persisted in the treatment, recovered from the pleurisy, became, in general appearance, perfectly well and no bacilli could be found in her sputum. In the fall of 1903 she went to work in one of our large department stores and has continued working steadily since, having in this time had no illness in any way traceable to her tuberculosis. She is now 21 years of age, clinically in perfect health, her last examination showing harsh breathing over the upper lobe of the left lung, with some crepitant (pleural) rales over the lower lobe, breath sounds heard clearly, though perhaps a little less distinctly over the left base than over the right and the left lung descending a little less on deep inspiration than the right lung. Pulse 68, temperature 98.4°. This has been her condition for two years working practically continuously as a shop girl.

CASE II.—On the same day that Miss L. applied another patient, Miss F., also came to our clinic. Miss F. was 22 years of age and worked in a jewelry shop. She first began to be ill two months previously. Examination gave slight dulness, some diminution of the respiratory sounds and some increase of vocal resonance and fremitus at the angle of the right scapula. There were no rales and no bacilli were found in the sputum. There was great loss of flesh and strength. Before coming to the out-patient department she was a patient in the house in the service of Dr. Terry at whose request I gave her the tuberculin test and ob-

tained a very marked reaction. Through our influence she was sent to the Sanatorium Gabriels in September, 1900, returning home in February, 1901, her expenses being paid by the head of the Catholic church to which she belonged. She has since been steadily at work in either a store or an office here in Providence and so far as her tuberculosis is concerned has remained perfectly well.

CASE III.—On December 6, 1900, Mrs. C., 19 years of age, came to our clinic. A brother and sister had both died of phthisis three years before. In the spring of 1900 she was a patient in the Rhode Island hospital with pneumonia, ever since which time she had had some pain in the right side. Six weeks before coming to the clinic she gave birth to a child. Examination gave moderate dulness, moist râles and increased vocal resonance and fremitus over the right upper lobe. Tubercle bacilli were numerous in the sputum. Mrs. C. was intelligent, and though living in a crowded section near the river, one of the poorer parts of the city, was faithful in following out the treatment and made a steady improvement. There was quite an interval during which she did not appear, previous to December 30, 1901, when she returned, having given birth to another child three weeks previously, with a cough, free expectoration and pain in the right side of the chest. These symptoms disappeared in about two weeks and were apparently from an acute cold and not from a recrudescence of the disease. She has remained perfectly well since then, doing her own house work. The last examination showed nothing abnormal in the lungs except harsher breathing over the former seat of the disease.

These three cases came to us in 1900, so that five years have now elapsed and the patients are apparently perfectly well.

Of course, with the majority of our cases we have been able to do little more than to relieve their symptoms only temporarily. There has been a good deal of satisfaction, however, in treating many of these advanced cases. One of the most distressing symptoms in tuberculosis is night sweats and but comparatively few of these have we failed to relieve by hygienic and gastrointestinal treatment. Night sweats usually mean the presence of some toxine other than that of the tubercle bacillus. This toxine may and frequently does come from the gastrointestinal canal, and in our opinion the most effective medicinal treatment of pulmonary tuberculosis is that directed to improving the digestive and assimilative processes. Perhaps we should state that the most important thing in the medicinal treatment of pulmonary tuberculosis is the avoidance of large doses of creosote, cod liver oil or anything which endangers whatever digestive power the patient has.

So much for our successes. There are many things we are hoping to accomplish but thus far have failed. We want some means of furnishing proper nutrition of the patients and greater supervision of the patients' home life. To this end a society similar to those formed for the Relief and Control of Tuberculosis is needed. We have hoped to see this work taken up by some well organized society, such as a branch of the Society for Organizing Charity as in New York or the District Nursing Association, as has been done elsewhere. With the State sanatorium open for early cases there will be even greater demand and need for both hospital facilities and of home relief for advanced cases, and so far as possible we stand ready to work with any well organized efforts to this end.

Since this report was written the Providence District Nursing Association has been giving the needed assistance as to nursing and a newly appointed committee on the Relief and Control of Tuberculosis of the Providence Society for Organizing Charity is furnishing the necessary material aid. The State Sanatorium has been opened, and accepts a certain number of free patients, so we are now sending the earliest cases there, the Society for Organizing Charity obtaining for them the necessary equipment.

MULTIPLE WOUNDS OF STOMACH AND INTESTINE IN A CHILD FIVE YEARS OF AGE.*

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The following history details the successful result attending the prompt repair of multiple intestinal lesions of a somewhat unusual origin in a child of five years:

The patient, a little Italian boy, was admitted to the Bryn Mawr Hospital in November, 1905, with the following history: He had been in a room, standing before an open stove in which there was a fire burning. His father threw some trash from his pocket into a coal scuttle, from whence it was thrown into the fire. In it there was a cap, such as is used for exploding dynamite cartridges. The cap is composed of composition metal, about one inch long, filled with high explosive. There was an explosion. It was discovered that the boy was wounded, and he was brought at once to the hospital. Several minute punctured wounds were discovered in the abdominal wall, from one of which, the largest, a tag of omentum was protruding. He was operated upon the same morning, within a few hours of the accident, Dr. Chrystie assisting. He was in good condition, pulse only slightly accelerated. There were five small wounds of the abdomen—two in the epigastric, two in the right hypochondriac, one in the umbilical region, only one of which could be demonstrated to penetrate the abdominal cavity before laparotomy was performed. This was in the epigastrium, to the left of the median line, and from it a piece of omentum about one inch long protruded.

A short incision was made through the wound to the right of the umbilicus to ascertain its depth, and then a free incision carried through the wound from which omentum prolapsed. Just beneath it there was a laceration of the stomach wall, oblique in direction, about one third of an inch in length, and a little distance beyond, shining beneath the peritoneal coat, a small sliver of thin metal, three sixteenths inch in diameter and about as thick as a very thin visiting card, which had produced it. The wound did not seem to have penetrated the mucous membrane. The edge of the liver overlying it was somewhat lacerated. The wound was closed by a double row of Lembert stitches after the foreign body was removed. The edge of the liver was whipped over by a fine catgut stitch, to prevent oozing.

Below the stomach, and beneath another wound which was penetrating, was a small double puncture of the small intestine, the metal fragment having gone through the gut. The two openings were also repaired.

Inspection of the inner surface of the abdominal wall showed all the punctures visible externally to be perforating. The small intestine was gone over, and

* Read before the Philadelphia Pediatric Society, February 13, 1906.

The lining of the esophagus and Stomach were great
ly torn, almost completely destroyed in the central
portion, both abraded, and bleeding in the lateral
wall, and very near entrance into it. In another, al-
most through the lumen, another fragment embedding
well in the stomach wall and another in the liver.
Escape from the blood had not occurred, probably
because of the extensive presence of the mucous membrane
which was torn. Such a case was not recorded
in any of our previous work. Skilled anesthetization per-
formed through gastrostomy and complete repair of
perforation. One large incision might have been
sufficient to give long lateral entry and one short ex-
ternal one, but these would have been chosen first if pre-
vious examination of the minute wounds had not led
to believe that most of them were not penetrating.
The wounds were closed by through and through
suture, with opening of the peritonæum and
careful drainage, and a small stitch abscess in one
place was uninterrupted. Later
there was a pleuritic attack of bronchitis, causing a little
cough and slight fever, but no other symptoms developed, and
the patient was discharged cured at the end of four
weeks.

Treatment of pruritus ani is both palliative or surgical. The great majority of cases require both kinds of treatment to effect a cure, while some cases

may, if taken in time, be cured by the palliative treatment alone. Palliative treatment consists in cleanliness, protection of the parts affected, regulating the habits of patient, the food and the condition of the alimentary canal, relief of itching by mechanical means, local applications; keeping patient in bed and procuring necessary sleep, and treating vegetations of the skin. There should be frequent and thorough bathing of the affected parts with hot solutions of listerine, potassium permanganate, carbolic acid, or a saturated solution of boric acid. When these solutions are applied for several minutes the absorbing power of the skin is increased. I never do advise the use of soap in cleansing, as it increases the irritation. If no excoriations exist I apply very cold water at bedtime with very good results as to temporary relief. For the protection of the parts I use a folded strip of soft surgeon's gauze, or a piece of silk, which relieves itching and pain by absorbing the secretions and keeping clothing and parts separated while walking. I prohibit as far as possible the use of alcohol, coffee, tea, and cacao pastries, parsnips, cheese, shell fish, pork, cabbage, confectionery, and starchy or highly seasoned foods. I place patient on light, nourishing diet of bread and milk, eggs, soups, broths, a limited amount of broiled steak and fresh fish, prohibiting all eating between meals. I advise moderation in eating and drinking, also advise plenty of exercise out of doors for those of sedentary habits.

The severe itching and pain are often relieved by firm pressure with a cloth on affected parts. I also use a nipple shaped plug of hard rubber inserted into the rectum upon retiring with exceedingly good results. There should be no scratching with the finger nails. A well oiled cloth will answer this purpose. I keep the bowels in good condition by the administration of some mineral water, or injections of two or three ounces of olive oil before going to stool. Local applications advised for the relief of pain and itching are many. I have had the most satisfactory results in my cases by using boric acid, olive oil, zinc oxide, ichthyol, silver nitrate five per cent. Alcohol has been of service as a wash.

Sleep can best be obtained by the use of bromides, etc., using due caution to prevent it becoming a habit in chronic cases. I use morphine only as the last resort.

When thread or seat worms are the cause I use an injection of salt water, repeating if needed. I also use santolin in obstinate cases. I clip off all vegetations or use Paquelin cautery.

Surgical treatment consists in removing by surgical means all the diseased conditions of these or adjoining parts, such as ulcers, fissures, or fistula. I apply a stick of silver nitrate or the actual cautery to ulcers, and use the curette on the fissures or the cautery point, afterwards treating as an ordinary burn. I open the fistula, pack with gauze until healed. I also have been well satisfied with results from thorough division of the sphincter ani, and I think it should be done in all cases.

Dr. John Wesley Judd, of Ithaca, N. Y., writes:

Pruritus ani means an itching about the anus. It is not a disease but a symptom of disease. Some cases are obstinate without any ascertainable cause. The cause exists and must be found to obtain a

cure. The wealthy and poor suffer, the calm and irritable professional and business man, the laborer—all. Both sexes are afflicted, males mostly during middle life.

Treatment.—Always make thorough examination of parts. Never prescribe any one thing for temporary relief. Find the cause and treat it. Assure patient if he obeys instruction in every particular he will get well. Never allow patient to rub parts in applying any medicament. For temporary relief at night, fortifying against unconscious scratching, insert hard rubber plug with flange; this gives relief by pressure on end nerves and vessels; then apply wide strip adhesive plaster across from one gluteal region to other. If you find in the folds small white worms (*oxyuris vermicularis*) inject quassia or lime water occasionally. But do not depend on this. Give calomel and santolin in every case, and repeat, as they will probably return. For vegetable parasites paint with tincture of iodine, or sulphur, balsam Peru, each one drachm to lard one ounce. For herpes use dry bismuth or zinc oxide dusted over, and the parts separated by a fold of dry sheet wadding. If it comes from eczema give small increasing doses of Fowler's solution, and apply locally zinc oxide. If the skin is red and congested, use hot water at night, or compound tincture of green soap. Apply hot water with sponge as hot as bearable, pressing tight against the rectum and holding until it becomes cool; repeat this several times. Afterwards apply oxide of zinc ointment.

For external and internal hæmorrhoids surgical interference for their radical cure is called for. Treat fissures by stretching the sphincter muscles and painting fissures with silver nitrate. In blind and open fistular open incision is to be made through them, curette and pack with iodoform gauze. If patient is of gouty or rheumatic tendency, treat with sodium salicylate, lithia and mineral waters. If the liver is at fault give podophyllum, together with plenty of exercise and cold bath. Never allow the bowels to become constipated. Instruct patient to take a glass of cold water before retiring and another in the morning, with a teaspoonful or dessert-spoonful of sodium phosphate, enough to insure one or two good movements each day. Examine the urine in every case and treat accordingly. Study all the habits of your patient, correct all excesses in alcoholic stimulants and tobacco. Sometimes you will find that one particular drink or one article of food is to blame for all the trouble. If it is of nerve origin treat constitutionally with arsenic, quinine, cod liver oil, etc. Good results have recently been obtained by dissecting off a portion of the skin covering the perinæum and around the anus.

Dr. H. C. Cowles, of New York, notes:

In order understandingly to treat pruritus ani a consideration of its numerous and diverse ætiological factors is necessary.

This condition may be a symptom or an essential disease. As a symptom it may be due to local or general causes. Among the former are mentioned gout, digestive disorders, anæmia, chlorosis, rheumatism, albuminuria, diabetes, and the toxic effect of tobacco. The chief local causes usually held responsible for this condition are hæmorrhoids, constipation, fissure, fistula, ulcerations, foreign bodies,

Therapeutical Notes.

Resuscitation from Chloroform Asphyxia by Lumbar Puncture.—M. Sicard, having found that the cerebrospinal fluid will hold nearly ten per cent. of chloroform, suggests lumbar puncture in cases of asphyxia or syncope when occurring under chloroform.

Elimination of Potassium Bromide.—Féré and Tixier, at the Société de biologie, Paris (*La Tribune médicale*, February 10, 1906), announced that the results of urinalysis of the twenty-four hours' urine show that the quantity of potassium bromide eliminated by the kidneys is very nearly the same as the quantity ingested.

For Relief of Pruritus.—In cases which will not tolerate tarry applications, the following is useful.

R Acetanilidi,0.65 gramme (or gr. x);
Ol. pini pumilionis,0.50 c.c. (or m. viii);
Adipis lanæ hydrosi, }āā 15 grammes (or 3iv).
Ung. aquæ rosæ, }

M.

Formula for Eczema of the Hands:

R Acidi salicylici,3xs;
Hydrargyri ammoniati,gr. xx;
Olei eucalypti,f3ss;
Ung. aquæ rosæ, }
Ung. zinci oxidi, }āā 3iv.

M. Ft. ung. Sig.: Apply twice daily to the parts of the hands affected.

J. V. Shoemaker in *Medical Bulletin*, April, 1906.

A New Oxide of Carbon.—O. Diels and B. Wolf (*Berichte der chemischen Gesellschaft in Science*, April 13, 1906) have isolated a new compound C_3O_2 (formula OCCCO), which is a colorless, highly refractive liquid. It is very volatile, boiling at 7° F., and highly refractive. It has an intense odor of acrolein and mustard oil, which is very irritating to the mucous membranes. It slowly undergoes decomposition at ordinary temperatures, forming a red solid.

Santonin in Diabetes Mellitus.—Séjournet, of Bourges, France, having systematically treated cases of saccharin diabetes with santonin, claims to have observed uniformly good results in the reduction of sugar. It is especially useful in congestive cases, having hepatic insufficiency with reduced quantity of urine, and the proportion of urea is very small. It is also useful in those patients whose breath has an odor of acetone. The dietetic treatment should be adapted to the case.

In Congestive Epilepsy.—Briand and Halberstadt have been successful in the treatment of the form of epilepsy attended with congestion of the retina and tachycardia by following the method of Bechterew, who prescribed the following:

R Adonis vernalis,1.50 gramme;
To be infused with,
Water,180 grammes;
After which add,

Codeinæ,0.10 gramme;
Potassii bromidi,4 grammes.

Of this, from five to seven tablespoonfuls are to be taken during the day.

Archiv général de médecine, through *La Clinique*, April 6, 1906.

Calomel in Puerperal Eclampsia.—W. Reynolds Wilson considers that calomel has been too much neglected in the treatment of eclampsia. It is not only purgative, but also antiseptic; it increases the quantity of urine and stimulates the circulation of blood in the kidneys. Large doses are advised in order to obtain speedy results. An initial dose of ten grains may be repeated in four hours, if necessary. The degree of diarrhœa is unimportant, the increase in the quantity of urine being the best criterion of the efficacy of the drug. In the presence of chronic nephritis, the dose should be smaller (two grammes every six hours), since the renal epithelium is especially sensitive in this condition. These doses are well tolerated, and never cause salivation. Morphine and chloral may be used as sedatives.—*Pennsylvania Medical Journal*, March, 1906.

Desiccated Buttermilk in the Digestive Disorders of Infancy.—A. Baginsky, who originally recommended fresh buttermilk in the treatment of the gastrointestinal disorders of infancy, has been experimenting with a preparation made as follows: The buttermilk was dried in vacuum, under the most favorable conditions, and ground into a fine, white meal. This substance is mixed with boiling water in the proportion of 200 grammes to a litre, and well shaken in the bottle before feeding. Experience has shown that this food is not only well tolerated in the lighter forms of gastrointestinal troubles in infants, but also in the more severe forms. Baginsky has used it in dyspepsias, constipation, deficient nourishment, and marasmus. It is given like the fresh buttermilk in frequent doses of small portions. The symptoms disappear and the patient gains in weight under its use.—*Medizinische Blätter*, April 5, 1906, from *Berliner klinische Wochenschrift*.

Treatment of Vulvar Pruritus.—Emollient solutions, followed by some inert powder, such as bismuth, subnitrate, zinc oxide, either alone or combined with talcum powder, or local applications of very hot water, or prolonged warm baths often yield good results. Brocq recommends where secondary lesions have been caused by scratching to add a little lead water, or potassium bromide to the solution. Chloral hydrate (one or two per cent.) is useful. Carbolyzed solutions are also applied with good effect. Internal treatment is often necessary. If the pruritus is of diabetic origin, appropriate remedies are indicated. The bromides, as a general sedative, are useful in idiopathic pruritus, also the valerianates and hydrotherapy. Parasites may be the exciting cause, and can be removed by sublimate solution, sodium chloride solution, or by the application of pure glycerin. Naphthol in olive oil is also useful (10 per cent.), and can be applied twice daily.—*La Quinzaine thérapeutique*, February 25, 1906.

Massive Injections of Normal Salt Solution in the Treatment of Typhoid Fever.—In a Madrid thesis, Garcia y Marin (*Le Journal de médecine et chirurgie*, Montreal, Canada, March, 1906) claims that large saline injections fulfil the prin-

small therapeutic indications in typhoid fever, which are (1) to diminish the pathological entity (2) to act on the internal activity of the organism against the infection, and yet to favor the elimination of toxic products of microbial or organic origin, the symptoms of which cause the typhoid state. The solution recommended is composed of seven grammes of sodium chloride in one thousand of grams of a concentrate of the trocar. The solution is put in a hot fluid in an auto-lave at 120° C., and the quantity used at each injection is about one hundred to two litres. The results observed from these massive injections of salt solution are: increase of blood tension, temporary loss of consciousness followed by reaction, suppression of the quantity of the urine passed in the first twenty hours, abundant diarrheal discharges and gastric vomiting, and general excretion in the stools of feces and of the nervous system. The explanation given by the author of the good results is that the injections favor regular metabolism through the organism in which occurs the progressive influence and the natural action of sodium, which the economy favors against the infection.

Inhalations of Oxygen in Infantile Bronchopneumonia. Veill and Demas, in *Maternité et Puériculture*, through La Tribune médicale, April 7, 1906, have used inhalations of oxygen for the treatment of a of infants in doses varying from thirty to one hundred litres in twenty-four hours, increasing it sometimes to even over 200 litres. The gas is administered directly through a tube, which is placed between the teeth of the little patients. The séances during the day are every two hours, about ten litres being used at each administration. Only in urgent cases is the oxygen used during the night; and I decrease the séances during the day or even there would be an access of dyspnœa, or of apnoea, the oxygen is immediately given. The object of the inhalations are to relieve the infant's symptoms, to produce some sedation, and finally to enable the exhausted patient to sleep. The effect upon the respiration and circulation is very marked and the relief is greater in proportion to the intensity of the dyspnœa and of the symptoms. The effect is not very lasting, but the objection can be obviated by frequent séances, which can be entrusted to the nurse. The oxygen acts very favorably upon the nervous system. In the opinion of the authors, it seems to exert an influence to combat general infection and in a certain measure it opposes the development of new infection centres in the organism.

Treatment of White Swelling of the Knee Joint. Raymond (La Tribune médicale, February 10, 1906) in an article on treatment of tuberculous arthritis of the knee, recommends the following combination for injection into the joint:

1. Iodoform 10 grammes.
2. Amyl nitrite 0.01 to 0.03 gramme.
3. Glycerine 10 grammes.

This solution is permanent, and should be per-

fectly clear. In every fifteen c.c. there is one gramme of iodoform, and of it 15, 30, or even 45 c.c. may be used for one injection. The trocar is introduced into the articulation just below the patella. After its withdrawal a drop of collodion will close the opening. A bandage is applied so as to make some pressure around the knee and to preserve the immobility of the joint. This injection causes no reaction of any sort, and is not painful. At the end of a week the oily vehicle is almost completely absorbed, leaving the synovial cul de sac more or less infiltrated. The treatment is supplemented at this period by perisynovial injections of a solution of zinc chloride (1 to 100, or 150 drops (3 to 4) of this being deposited in several places in the synovial fringe, and deep in the tissues around the joint, especially near the position of the attachment of the synovial membrane to the femur. Every precaution should be taken to prevent the entrance of the zinc solution into the synovial cavity, where it would provoke violent inflammation without accomplishing its purpose. After a few days, when local reaction has subsided, the joint is enclosed in a plaster of Paris bandage (which may be removed in two or three months), and the joint kept at rest for five months.

Treatment of Prostatic Hypertrophy by X Rays.—Léron (in *La Clinique*, April 13, 1906) reviews the literature of the Röntgen ray treatment of hypertrophy of the prostate, showing very favorable results. The rays are directed to the perinæum, or through a rectal speculum to the base of the bladder. The genitals are protected by a sheet of lead.

Amyl Nitrite in Hysterical Hemiplegia and Other Conditions.—It would appear that hysterical palsies are due to localized angiospasm, and that, in consequence a vasodilating agent is indicated, according to the views of Hirtz (*Journal des praticiens*, through *La Tribune médicale*, April 7, 1906). In this group of neuroses, the inhalation of amyl nitrite often produces surprising results. The remedy acts beneficially in all kinds of hysterical manifestations: paralysis, aphasia, trembling. It is only necessary to place a few drops upon a handkerchief, and allow the patient to inhale from it, and at once amelioration is observed. The amyl nitrite acts by dilating the vessels. Aided by suggestion (in cases in which suggestion alone had been tried and failed) marvels are apparently wrought. Professor Raymond and Professor Sicard have verified the good results of this remedy in these hysterical conditions. It may also be used as a diagnostic method. Whereas the cases of hemiplegia of organic nature are not influenced by amyl nitrite, hemiplegias of hysterical character are rapidly and surprisingly improved by this agent. The good effects are enhanced by the simultaneous administration by the mouth of spiritus glycerinis nitratus, or the hypodermic injections of amyl nitrite (0.01 to 0.03 gramme, or $\frac{1}{10}$ to $\frac{1}{2}$ grain) as recommended by Raymond, which will prolong the good results of the injection to the following day.

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CANNED ARTICLES OF FOOD.

The Secretary of Agriculture, in collaboration with the Committee on Food Standards of the Association of Official Agricultural Chemists, acting under authority of an act of Congress, proclaimed in March of this year a standard for canned fruit, making use of the clause "keeping in suitable, clean, hermetically sealed vessels." Apparently it has since been thought desirable to issue a more definite statement of the requirements, and the committee, after considering various suggestions concerning the standard for tin plate and tin cans, has issued a circular, dated April 16th, in which the specifications are stated in a tentative way.

The description is as follows: "Suitable vessels for holding preserved food products, if made of tin plate, contain, in the plate, not more than a trace of lead, antimony, or arsenic, and, if soldered, none of the solder used is in contact with the contents of the can. The tinned plate has not less than two thirds ($\frac{2}{3}$) of a pound of tin to one hundred (100) square feet of surface. The caps or covers of vessels holding preserved food products contain no zinc, lead, antimony, or arsenic in contact with the contents of the vessels." It will be seen that, as is specifically stated elsewhere in the circular, this applies to all food containers made of tin plate or having caps or covers made wholly or in part of metal, without regard to the kind of food contained in them.

It is intimated that the subject will be further considered at a meeting of the committee to be held in May or June, and those who have criti-

cisms or suggestions to make, as well as those who wish for hearings concerning the matter, are invited to communicate with the secretary of the committee, Dr. William Frear, addressing him at State College, Pennsylvania. The committee is to be commended for taking such pains to arrive at a definite statement of proper requirements, and it is to be hoped that persons to whom suggestions occur will lose no time in writing to Dr. Frear. Possibly the expression "a trace" might give place to one more specific, and perhaps the requirements relating to caps or covers and those applying to the cans themselves might be made identical.

THE PATHOLOGY OF INTESTINAL AMŒBIASIS.

Intestinal amœbiasis (amœbic dysentery) is, as our readers know, an ulcerative condition of the large intestine caused by the *Amœba coli* (Lösch) which may by extension involve the ileum. The disease is a subacute or chronic inflammatory process which may terminate in complete healing or be followed by chronic catarrhal or atrophic enteritis, known as sprue or psilosis. Woolley and Musgrave have described the pathology of this condition (*Bulletin of the Bureau of Government Laboratories*, Manila, No. 32, June, 1905) from a study of two hundred cases.

In the early stages of the disease there is a catarrhal condition of the mucous membrane with hypertrophy and cystic and mucoid degeneration. At various points, from the lower part of the ileum to the lower part of the rectum, small, raised hæmorrhagic spots are seen which later lose their mucous covering and resemble erosions, and still later ulcerate. If abscesses have formed in the submucosa, they rupture into the bowel and produce the first stage of undermined ulcers. These undermined ulcers are usually progressive, at least while the cause persists. When secondary infections occur the progress of the disease is likely to be modified by the occurrence of diffuse congestion, hæmorrhage, diphtheritis, or gangrene. Perforations may occur in the course of the ulcerative stages, with consequent localized or general peritonitis, retroperitoneal abscess, and the like. The healing of small lesions may be complete, but in the case of large lesions scar tissue and subsequent contraction mark the healing stage. Peritonitis may result in the formation of adhesions. Generally in active cases the intestine is thickened on account of œdema of all four coats, most marked, however, in the submucosa. The thickening may be due to the abscesses and sinuses which are so

common in the colonoscopy. In very active cases the submucosal layer is quite ulcerated. In some cases the mucous membrane between the fibres appears normal.

In the two hundred cases forming the basis of this study, the entire large intestine was involved in one case; lesions were confined to the cæcum and the ascending colon in twenty-three, to the transverse colon in two, and to the descending colon, sigmoid flexure, and the rectum in nine. The portion of the intestine involved was not recorded in seven. The appendix was involved in thirteen cases and the ileum in seven. Histologically, congestion is the most marked feature of the early lesions, and this is frequently associated with capillary hæmorrhages, which are most noticeable immediately beneath the mucosa. In these lesions the amœbæ are seen in the blood of Lieberkuhn, in the interglandular tissues, and in the bloodvessels of the muscularis mucosæ and the submucosa. In such lesions microorganisms are very few and inflammatory changes are entirely prenegligible. As the disease progresses, the congestion, the œdema, and the number of amœbæ increase, and the epithelium surrounding the lesion undergoes mucoid degeneration. The two most evident features of the advanced lesions are necrobiosis and the relative infrequency of leucocytes, features which suggest the important rôle of the amœbæ. The method of the entrance of the amœbæ into the bloodvessels cannot be satisfactorily explained, but they do not necessarily cause thrombosis by their presence. They are able to ingest and destroy apparently healthy erythrocytes and leucocytes.

ASEPTIC FEVER AFTER OPERATIONS.

Doubtless every general practitioner of common experience, and *a priori* every surgeon and obstetrician, has felt some anxiety by reason of a patient's having after an operation or after delivery a noticeable degree of fever suggestive of a septic process, and has been relieved to see the fever subside after a few hours without being able to account for either its occurrence or its subsidence. At a recent meeting of the Paris Academy of Sciences (*Semaine médicale*, March 20th), M. Charrin and M. Jardry reported some recent attempts of theirs to explain this afebrile fever.

Choosing animal conditions rather closely, they said, they had been able to produce such fevers in animals, particularly in dogs. Having made a small incision into the thigh and into the abdomen, they inserted into the peritoneal cavity from half an ounce to a little more than two

ounces of blood. To approach the conditions met with in actual practice, and especially to avoid any admixture of foreign fluids, they used the animal's own blood, taking it from the wound of the thigh. The procedure was carried out under the strictest asepsis. In from three to nine hours they observed a sudden rise of temperature of from two to four degrees, but on the second or third day, unless there were complications, it had fallen to normal again.

Histological examinations, cultures, and in particular the absence of a period of incubation showed that there was no infectious process. They produced similar results also by injecting saline solutions, cellular extracts, a diastase, or, above all, fibrin ferment. They remark that in cases of such fever occurring in the human subject there may be an added influence resulting from the establishment of the mammary secretion or from the nervous and emotional excitement that is apt to occur in patients who have been operated on and in women who have been newly delivered—conditions which react upon metabolism and consequently on the thermogenic function.

It is highly desirable of course to be able to distinguish these benign febrile states from the fever of infection. More commonly than is the case with an infective process, the tongue remains partly moist, the urine is rather abundant, and the expression of the face is comparatively natural. The authors think it is possible to base a distinction on these features, and if that can be done the prognosis is absolutely favorable. They speak of the cause of the aseptic fever as chemical, and they add that the effect is of brief duration. Perhaps such conditions as they have imitated experimentally may account for many a case of ephemeral fever and of the "milk fever" of the old writers.

KALA-AZAR.

This is an infectious disease of tropical countries, characterized by enlargement of the spleen and by a febrile course which lasts for many months and sometimes for many years, with long intervals during which there is little or no rise of temperature. Sometimes it begins insidiously and the patients present themselves with decided but unsuspected enlargement of the spleen and a history of a few days' fever. There appear to be two forms: An epidemic, spreading form, which is common in Assam, and a less fatal, sporadic form, which is also called "cachexial fever." It was from the spleen of a patient who had died of the latter form that Leishman, in

1903, isolated the organism which is now known as the Leishman-Donovan body.

Leonard Rogers (*Proceedings of the Royal Society*, February 26th) has succeeded, not only in keeping the organism alive outside the human body, but also in causing it to multiply and to develop into an elongated, flagellated body in about three days. In order to accomplish this result, he kept the fresh blood obtained by puncture of the spleen in sterile test tubes containing a few drops of a two to five per cent. solution of sodium citrate in normal salt solution, faintly acidified with citric acid. Complete sterility is necessary for the production of these results. When the flagellated stage of the organism was first obtained, Rogers thought it to be a young trypanosome which had not yet formed an undulating membrane. Further observation failed to detect the development of even a trace of such a membrane, and there was no evidence of a tendency for the micronucleus to pass away from the anterior end of the organism toward the macronucleus. Therefore the conclusion was reached that the organism belonged to the genus *Hepatomonas* and not to *Trypanosomas*. The name *hepatomonas* of kala-azar is proposed for it.

The Leishman-Donovan body has been found by Donovan and by Christophers within the leucocytes in the circulating blood during high fever, and it has been shown that it may develop within the leucocyte, so that biting insects may be infected by leucocytes containing the undeveloped parasites. The culture experiments point to the stomach of some blood-sucking insect, such as the bed bug or the mosquito, as the only environment in which these organisms would meet with the required conditions for their continued development outside the human body. Furthermore, the extremely rapid multiplication of the flagellated forms in cultures indicates that in the, presumably, more favorable natural conditions of the extracorporeal stage a small number of the organisms would multiply to such an extent as to constitute a powerful infective agency. They develop best at a temperature of about 72° F. A clinical study of the incidence of kala-azar shows that five times as many cases develop in the cool months, November to April, as in the hot months. The disease is common in Assam, Bengal, and Madras, where the temperature of the several months of the cold season corresponds closely with the most favorable temperature for the development of the parasite in cultures. On the other hand, the disease is much more rare or has not been proved to originate in those parts of India where the winter presents a greater degree

of cold and the more favorable spring and autumn are very short.

"RECALCIFICATION."

The most recent form of reconstituent medication that has come to our notice has received this name. It seems to have been advocated rather more than twenty years ago by M. Galippe (*Journal des connaissances médicales pratiques*, 1885), but to have failed at that time to attract general attention. The idea has since occurred independently to M. Paul Ferrier, who expounds it in the *Bulletins et mémoires de la Société médicale des hôpitaux de Paris* for April 5th.

It is brought forward as a means of treating tuberculous disease, especially pulmonary consumption. Such disease is supposed by M. Ferrier to be connected with diminution of the calcium compounds in the organism, and "recalcification" is intended to restore the lost elements, though the author gives prominence to the alleged good effects of calcium salts on the digestion. He practically attributes the power of lavage to the administration, half an hour before each of the principal meals, of a glass of water highly charged with calcium bicarbonate. In addition, he advises that there be given three times a day, during or after a meal, a capsule containing six grains each of calcium carbonate and tribasic calcium phosphate, together with about five grains of sodium chloride.

M. Ferrier seems to have a horror of acids of all kinds as an article of diet, and he singles out oranges as playing an eminently pernicious part in hospitals. He thinks that even the use of milk needs watching on account of the resulting lactic acid. Acidity, according to him, must be corrected at all hazards, and it is not a sodium salt, but a calcium salt that should be used to combat it. The purity of the air, the sea air, the exposure, and the altitude, he says, have all been invoked to account for the favorable effects of health resorts, but the only common feature that he finds in such localities is the presence of calcium compounds in the air or the soil.

Much of this appears so fanciful that we can readily understand the skepticism with which M. Sergeant, who took part in the discussion, declares that he consented to try M. Ferrier's plan of medication; but he did try it, and he has become converted to the view that it is very efficacious in the treatment of tuberculous disease. In the further course of the discussion M. Rénon mentioned an interesting observation of his own, that of a small town in which the principal industry was the operation of lime kilns. The workmen, though excessively given to drink, were remark-

which they have introduced females, and consump-
tion had been known to improve very decidedly
after going to work in the fields.

THE BACTERIOLOGICAL DIAGNOSIS OF SYPHILIS.

It is somewhat surprising to find that the diagnostic criterion of syphilitic lesions is the demonstration of the spirochete, *Spirillum pallidum*, which is a delicate organism, may be demonstrated by experimental inoculation in monkeys. The latest observations of Thibierge, Ravant, and Leclercq (Comptes rendus, April 7th), made upon scrapings from the surface of suspicious lesions, give after upon microscopical examination, agree in every essential feature with the results of previous observations. Thus out of thirty-nine suspected cases of chancre, they found the parasite in thirty. They recommend that the examination be made upon the first scrapings, in which the parasite is always found, but of the serous exudate which exudes after the scraping of the surface, in which the parasite is always found abundant. Experiments upon animals show that this material is inoculable; on the contrary, the centrifuged material upon which the plasma effusion, in which the parasite were found, gave negative results. They not only succeeded in conducting the parasite into the animal with a syringe, but they also succeeded, with Brunet, in following the parasite during its third passage through the animal. The preferable method in the diagnosis of a suspicious lesion, according to the investigators, would be to at once inoculate a portion of the material (upon the eyebrow), then to take sections and examine them, and in the last place to examine the scrapings. However, in practice the examination of the scraping will be the first, since it is regarded as being of itself sufficient to establish the syphilitic nature of the lesion. In the case of a chancre, demonstrating the presence of the *Spirillum pallidum*, and therefore to make a positive diagnosis. In the class of mixed chancres, the examination of carefully stained scrapings will reveal the simultaneous existence of the *Spirillum pallidum* and the bacilli of the disease.

The results of the inoculation of monkeys also will give the characteristic lesions of the disease. Therefore, to afford a scientific basis, and an absolute certitude to the diagnosis of a suspicious lesion, the correct procedure now deemed advisable is to begin with an examination of the scrapings (or subsequent serous exu-

dation rather), and, if the results are negative, to remove a portion, which can be cut into sections and stained; and finally, if it should be necessary, to practise inoculation upon a monkey. In this way the bacteriological diagnosis of syphilis is in reality analogous to the methods now employed to determine the tuberculous character of a lesion.

THE WARRENS OF BOSTON.

We all hold in patriotic reverence the name of the Warren who took part in the battle of Bunker Hill, and most of us have always been aware that generations of Warrens had served as surgeons to the Massachusetts General Hospital. It is doubtful, however, if many of us realized the continuous service of the family in that institution from the time of its establishment, in 1814, to January, 1905. The ninety-second annual report of the trustees, recently issued, informs us that Dr. John C. Warren, in conjunction with Dr. James Jackson, inspired the efforts that led to the establishment of the hospital, that he served the institution till 1855, that Dr. J. Mason Warren was one of its surgeons from 1846 to the time of his death, in 1867, and that Dr. John Collins Warren was on its surgical staff from 1865 until 1905, when he resigned. This is certainly a remarkable record for a family of surgeons.

EXPENSIVE BUT NOT EXTRAVAGANT.

In a little book recently published, entitled *The Cynic's Dictionary*, by Mr. Harry A. Thompson, a Philadelphia wit not unknown to medical circles in New York, we find the following definition: "Curiosity. Paying a thousand dollars to see a cat operate."

Obituary.

RHOADS STANSBURY SUTTON, M. D., LL. D.,
OF PITTSBURGH.

Dr. Sutton died suddenly, in a street car, on April 21st. He was born in Indiana, Pa. He was a graduate of the Medical Department of the University of Pennsylvania, of the class of 1865. For many years he was a prominent gynecologist, and he was one of the pioneers in abdominal surgery. He had contributed valuable articles to this journal and to various other medical publications, and he had held high offices in a number of local and national medical organizations. He was a man of lovable personality and was highly esteemed in the profession.

News Items.

NEW YORK CITY AND STATE

The American Therapeutic Society.—On Thursday evening, May 3rd, the president, Dr. Carl Beck, entertained the members of the society and an invited company at a reception given at his house.

The Saratoga (N. Y.) Medical Society.—The programme for a meeting held on Friday evening, May 4th, consisted of a symposium on chorea, divided as follows: *Ætiology and Pathology*, Dr. Hemstreet; *Symptoms and Diagnosis*, Dr. Loop; *Treatment*, Dr. Sherman. To be discussed by Dr. Van Aernem, Dr. Small, and Dr. Palmer.

Society of the Medical Inspectors of the City of New York.—The programme arranged for a meeting, held on Tuesday, May 1st, was as follows: Paper: *Tics in Children and their Educational Treatment*, by Dr. Charles Herrman; Discussion opened by Dr. Adolf Meyer; Paper: *Early Diagnosis of Spinal Diseases in Children*, by Dr. Edward M. Thompson; Discussion.

The Elmira (N. Y.) Academy of Medicine.—The following programme was arranged for a meeting, held on Wednesday evening, May 2nd: Report of a Case of Appendicitis, by Dr. R. G. Loop, Elmira, N. Y.; Some Common Obstetric Problems, by Dr. Anna M. Stewart, Elmira, N. Y.; Symptoms and Treatment of Secondary Syphilis, by Dr. F. E. Woodhouse, Elmira, N. Y.

The Eastern Medical Society of the City of New York.—A meeting of this society will be held on Friday evening, May 11th, with the following programme: A Symposium on Cerebrospinal Meningitis, arranged as follows: (a) *Symptomatology and Diagnosis*, by Dr. L. Fischer; (b) *Contagious Element*, by Dr. Ira Van Gieson; (c) *Treatment*, by Dr. H. W. Berg; to be discussed by Dr. Koplik, Dr. Leszynsky, Dr. Cohen, and others.

The Rochester (N. Y.) Academy of Medicine.—The programme for a meeting of the *Section in General Medicine*, held on Wednesday, May 2nd, consisted of a Heart Symposium, by Dr. Henry L. Elsner, of Syracuse, as follows: (a) *Serious Heart Lesions Without Marked Continuous Physical Signs*; (b) *Præcordial and Abdominal Pain, with Vascular or Cardiovascular Changes. Including a Reference to Vascular Crises*; (c) *The Hygienic and Dietetic Treatment of Hypertrophy and Dilatation of the Heart*.

A Reception to Professor Friedrich Trendelenburg, of Leipsic, was given by Dr. Willy Meyer, at Delmonico's, on Friday evening, April 27, 1906. Professor Trendelenburg has come to this country on the invitation of the American Medical Association to attend the Boston meeting, prior to which he will visit Philadelphia, Baltimore, and Washington; thence he goes west to Chicago, and to visit the Mayo's at Rochester, Minn. Professor Trendelenburg expects to attend the meeting of the American Surgical Association, which will be held at Cleveland on May 30th. During his stay in New York he is the guest of Dr. Willy Meyer.

The Buffalo Academy of Medicine.—At a meeting of the *Section in Surgery*, held on Tuesday evening, May 1st, the programme was as follows: The Importance of the Early Recognition and Operative Treatment of Malignant Tumors, the Variation of the Extent of the Operative Removal According to the Relative Malignancy of the Tumor, with lantern slide demonstration, by Dr. Joseph C. Bloodgood, of Baltimore, Md.; Discussion by Dr. Roswell Park and Dr. H. R. Gaylord; Perforating Typhoid Ulcer, by Dr. John Parmenter.

The *Section in Medicine* will hold a meeting on Thursday, May 8th, with the following programme: (a) The Administration of Iron, by Dr. Eli H. Long; (b) Dropsy, by Dr. Albert T. Lytle; (c) Election of officers for the ensuing year.

The New York State Board of Medical Examiners.—The State Board of Regents, on April 26th, made the following appointments to the board of medical examiners: From the Medical Society of the State of New York: Dr. William Warren Potter, of Buffalo; Dr. William S. Ely, of Rochester; and Dr. Maurice J. Lewi, of New York, all reappointed; and Dr. Arthur W. Booth, of Elmira, to fill the unexpired term of the late Dr. George R. Fowler. From

the Homœopathic State Medical Society: Dr. J. M. Lee, of Rochester; Dr. J. W. Candee, of Syracuse; Dr. G. E. Gorham, of Albany, all reappointed. From the State Eclectic Society: Dr. L. H. Smith, of Buffalo; Dr. O. W. Sutton, of Bath, and Dr. M. H. Nichols, of Worcester, all reappointed. Anna L. Alline, of New York, was appointed a member of the State board for the examination of nurses.

The Queens-Nassau Medical Society.—In common with other medical organizations of this section, the Queens-Nassau Medical Society is collecting a fund for the relief of the medical men and their families who have suffered so severely from the late terrible calamity at San Francisco. Dr. William J. Burnett, president of the society, of Long Island City; Dr. Samuel Hendrickson, of Jamaica; and Dr. John Mann, of Westbury, have been appointed a committee to receive subscriptions, and notices of the same have been mailed to all the members. The annual meeting of this society will be held at the Nassau County Court House, Mineola, N. Y., on Tuesday, May 29, 1906, at 2 p. m. Papers have been promised from Dr. Boettiger, of Long Island City, on Perforating Ulcer of the Duodenum, and report of a case; and from Dr. E. S. McSweeney, of New York, upon The Surgical Treatment of Indigestion. Officers for the year commencing January 1, 1907, will also be elected at this meeting.

Kings County Physicians' Relief Fund for the Medical Profession of San Francisco, Cal.—A committee composed of Brooklyn physicians has been appointed by the president of the Medical Society of the County of Kings, to collect contributions for the relief of physicians in San Francisco county who are in distress in consequence of the late disaster. The committee believes that no class will suffer more than the members of the medical profession and that it will be more agreeable for them to receive aid from their professional brethren than from relief bureaus. The committee, therefore, earnestly solicits contributions from the profession. Any amount, however small, will be gratefully received. Checks may be made payable to the order of the chairman, Dr. L. A. W. Alleman, 64 Montague Street, Brooklyn. The committee is composed of the following named physicians: Dr. L. A. W. Alleman, Chairman, 64 Montague Street; Dr. Alfred Bell, President Brooklyn Medical Society; Dr. Elias H. Bartley, President Associated Physicians Long Island; Dr. E. E. Cornwall, President Long Island Medical Society; Dr. Thomas B. Spence, President Brooklyn Surgical Society; Dr. Joseph Merzbach, President German Medical Society; Dr. James S. Waterman, President Brooklyn Medical Club; Dr. Henry G. Webster, President Brooklyn Pathological Society; Dr. Walter C. Braislin, editor of *Brooklyn Medical Journal*; Dr. James P. Warbasse, editor of *New York State Journal of Medicine*; Dr. L. Grant Baldwin, Dr. Calvin F. Barber, Dr. H. Beekman Delatour, Dr. Robert L. Dickinson, Dr. J. Bertram Dowd, Dr. Henry A. Fairbairn, Dr. James W. Fleming, Dr. Russell S. Fowler, Dr. Mathias Figueira, Dr. John F. Haller, Dr. George Hamlin, Dr. J. Richard Kevin, Dr. M. T. Lewis, Dr. John L. Macumber, Dr. Joseph W. Malone, Dr. Robert J. Morrison, Dr. George McNaughton, Dr. Joseph H. Raymond, Dr. Joshua M. Van Cott.

The American Therapeutic Society.—The seventh annual meeting was held at the New York Academy of Medicine, on Thursday, Friday, and Saturday, May 3rd, 4th, and 5th. The following programme was arranged for the meeting: Therapeutic Effect of Sound Waves or Mechanotherapeutics of the Ear, Dr. Clarence J. Blake, Boston; The Principles Underlying the Treatment of Tuberculosis with Tuberculin, Dr. F. M. Pottenger, Los Angeles, Cal.; Discussion to be opened by Dr. Egbert LeFevre; The Therapeutic Value of Ergot, Dr. Oliver T. Osborne, New Haven; The Medical Treatment of Gallstone Disease, Dr. Reynold Webb Wilcox, New York; Discussion by Dr. Thomas E. Satterthwaite, and Dr. Carl Beck; Duties and Responsibilities of Medical Practitioners in Their Relation to the Borderline Diseases, Dr. Thomas E. Satterthwaite, New York; The Therapeutic Sense, Dr. George B. Fowler, New York; The Science of Therapeutics, Dr. George F. Butler, Chicago; Why the Medical Profession Should Support the Pharmacopœia, Dr. F. E. Stewart, East Orange, N. J.; Diet in the Vomiting of Pregnancy, Dr. Louis Kolipinski, Washington, D. C.; The Medical Treatment of Cancer, Dr. Robert Reyburn, Washington, D. C.; Discussion opened by Dr. Louis Kolipinski, Washington, D. C.; Angina Pectoris, Dr. Edward D. Fisher, New York; The Prevention and Treatment of Uræmia in Acute Nephritis, Dr. Howard Van Rensselaer, Albany, N. Y.; Neurabolic Medication with

Medical Association; Providence, R. I., Medical Association; Hartford, Conn., Medical Society; South Pittsburgh, Pa., Medical Society; Chicago Medical Society; New York, N. Y., New York Academy of Medicine (Section in Genitourinary Surgery); New York Medical College (Section in Genitourinary Surgery); New York College of Podiatry (private); Buffalo Academy of Medicine (Section in Genitourinary Surgery); New York Medical Association; Rome, N. Y., Medical Society; Medical Society of the County of Rensselaer, N. Y. (annual); Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association; Clinical Society of the Elizabeth, N. J., Medical Association; Philadelphia, Pa., Philadelphia Medical Society of Philadelphia; Practitioners' Club, Richmond, Ky.; Richmond, Va., Academy of Medicine

city; New York Surgical Society; American Microscopical Society of the City of New York; Society of the Alumni of the City (Charity) Hospital; Society for Medical Progress, New York; Pittsfield, Mass., Medical Association (private); Philadelphia County Medical Society; Lenox, Mass., Medical and Surgical

(Sections in Pediatrics and Otolaryngology); Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; Medical Society of the City of New York; Massachusetts Medical Club (private); Pathological Society of Philadelphia; Church Hill Medical Society of Richmond, Va.

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Special Medical Inspectors for Montgomery County, Pa., were appointed by the State commissioner of health, on April 24th. They are Dr. A. A. Cairns, Dr. Charles B. Penrose, Dr. Norton Downs, and Dr. A. C. Wood.

The Annual Meeting of the Advisory Board of the Westar Institute of Anatomy was held in Philadelphia, on April 16th. The board discussed the present research work on the anatomy of the brain, which is in progress at the institute. It also discussed items of the general policy of the institute, such as the extension of the facilities of the institute to other workers in the field of anatomy, the collection of material; and the organization of cooperative research in neurology. In the evening a dinner at the Belvedere-Stratford Hotel was enjoyed.

Miss Mollie I. Bender was awarded a verdict of \$100,000 against Dr. E. Eldridge, of 1639 North 1st street, who poses as a specialist in electrotherapeutic treatment of illegally practicing medicine. Since then he has employed a nurse to treat patients.

The case in question arose over the treatment of an ulcer on the plaintiff's foot, which she alleged was caused by the doctor's treatment.

Camden County (N. J.) District Medical Society
The members of the society were
of the pure food and drug bill.
Dr. Joel W. Fithian; vice-president, Dr. S. G.
secretary, Dr. Paul M. McCray; treasurer, Dr. A.
historian Dr. Alfred Cramer; committee of

A. Y. Schellinger; delegates to New Jersey Medical Society, Dr. Paul M. Mccray, Dr. Dowling Benjamin, Dr. William A. Westcott.

Scientific Society Meetings in Philadelphia for the Week Ending May 12, 1906.—Monday, May 7th, Philadelphia Academy of Surgery; Biological and Microscopical Section, Academy of Natural Sciences; West Philadelphia Medical Association; Northwestern Medical Society. Tuesday, May 8th, Kensington Branch, Philadelphia County Medical Society; Philadelphia Paediatric Society; Botanical Section, Academy of Natural Sciences. Wednesday, May 9th, Philadelphia County Medical Society. Thursday, May 10th, Pathological Society; Section Meeting, Franklin Institute. Friday, May 11th, Northern Medical Association.

The Philadelphia Branch of the American Pharmaceutical Association.—A meeting, held at the College of Physicians, on Tuesday, April 24th, was largely devoted to a discussion of the relations existing between physicians and pharmacists, with a view of bringing the latter in closer touch with and more in harmony with the ideas, ideals, and present requirements of members of the medical profession. Among the subjects that were discussed were: The Discontinuance of the Indiscriminate Renewal of Prescriptions, Discouraging the Sale and Use of Patent Medicines or Nostrums, and The Desirability of Endorsing and Assisting the Council on Pharmacy and Chemistry of the American Medical Association.

Philadelphia Personals.—Dr. Ross V. Patterson has resigned as assistant chief resident physician to the Philadelphia General Hospital.

The following named physicians are registered at the Philadelphia Polyclinic and College for Graduates in Medicine: Dr. F. D. Willis, of Newport News, Va.; Dr. Warren T. Clark, of Trenton, N. J.; Dr. A. M. Herron, of Charlottesville, N. C.; Dr. A. L. Steinfeld, of Toledo, Ohio; Dr. Isaac A. Bigger, of Rock Hill, S. C.; Dr. P. M. Keller, of Hikmangi, New Zealand; Dr. E. G. Epler, of Fort Smith, Ark.; Dr. W. W. Ralston, of Houston, Texas; Dr. B. W. Fassett, of Courtney, N. C.; Dr. H. H. Rote, of Williamsport, Pa.; Dr. A. R. Fiske, of Spartanburg, S. C.; Dr. Rena M. Heilman, of Leechburg, Pa.; and Dr. J. B. Stubbs, of Wilmington, Del.

Dr. DeForest Willard has been seriously ill at his home, 1818 Chestnut Street, with pneumonia.

The Health of Philadelphia.—During the week ending April 21, 1906, the following cases of transmissible diseases were reported to the Bureau of Health:

| | Cases. | Deaths. |
|--------------------------------|--------|---------|
| Malarial fever..... | 1 | 0 |
| Typhoid fever..... | 222 | 20 |
| Scarlet fever..... | 56 | 2 |
| Smallpox..... | 2 | 0 |
| Chickenpox..... | 20 | 0 |
| Diphtheria..... | 79 | 5 |
| Cerebrospinal meningitis..... | 9 | 3 |
| Measles..... | 351 | 6 |
| Whooping cough..... | 50 | 6 |
| Tuberculosis of the lungs..... | 128 | 73 |
| Pneumonia..... | 126 | 77 |
| Erysipelas..... | 19 | 1 |
| Purpural fever..... | 2 | 1 |
| Mumps..... | 25 | 0 |
| German measles..... | 11 | 0 |
| Cancer..... | 13 | 21 |

The following deaths were reported from other transmissible diseases: Septicæmia, 3; tuberculosis, other than tuberculosis of the lungs, 7; diarrhoea and enteritis, under two years of age, 13. The total deaths numbered 568, in an estimated population of 1,469,126, corresponding to an annual death rate of 20.10 in 1,000 population. The total infant mortality was 117; under one year of age, 91; between one and two years of age, 26. There were 32 still births, 21 males and 11 females. The weather was seasonable.

BOSTON AND NEW ENGLAND

The Windham County (Conn.) Medical Association.—The one hundred and thirteenth annual meeting was held at Putnam, on Thursday, April 26th. Officers for the ensuing year were elected as follows: President, Dr. R. C. White, of Willimantic; vice-president, Dr. C. J. LeClaire, of Danielson; secretary and treasurer, Dr. James L. Gardner, of Central Village; councilor, Dr. F. E. Guild, of Windham; delegate, Dr. C. C. Gildersleeve and Dr. H. L. Hammond; alternates, Dr. Theodore Parker and Dr. C. J. LeClaire.

The Middlesex County (Conn.) Medical Association.—The fourteenth annual meeting of this association was held

at Middletown, on Saturday, April 26th. The election of officers resulted as follows: President, Dr. Cushman A. Sears, of Portland; vice-president, Dr. Charles B. Young, of Middletown; clerk, Dr. John E. Loveland, of Middletown; councilor, Dr. Frank K. Hallock, of Cromwell; censors, Dr. S. W. Turner, Dr. M. C. Hazen, and Dr. C. H. Hubbard; county reporter, Dr. John H. Mountain, of Middletown; delegates to State convention, Dr. Hazen and Dr. Coleburn. Delegates to other county associations: Dr. Stanley, to Hartford county; Dr. French, to New Haven county; Dr. Braden, to New London county; Dr. Kingsman, to Litchfield county; Dr. Coleburn, to Fairfield county; Dr. James Murphy, to Tolland county; Dr. J. Francis Calef, to Windham county.

The Litchfield County (Conn.) Medical Association held its one hundred and forty-second annual meeting at Winsted, on Tuesday April 24 1906. Officers for the ensuing year were elected as follows: President Dr. G. D. Ferguson, of Thomaston; vice-president, Dr. I. L. Hamant, Norfolk; clerk, Dr. S. G. Howd, Winsted; reporter, Dr. F. H. Lee, Canaan; councilor, Dr. E. H. Welch, Winsted. The councilor and Dr. P. H. Sellow, of Salisbury, and Dr. Elias Pratt, of Torrington, were elected to represent the association at the meeting of the State society. Dr. William G. Reynolds, of Woodbury, was admitted to membership. Dr. Knight, of Lakeville, being absent, Dr. Lee, of Canaan, presided. Papers on the following subjects were read and discussed: Neurasthenia, with Recovery, by Dr. E. R. Pike, of Lakeville; Dry Hot Air in the Management of Some Common Pathological Conditions, by Dr. C. E. Skinner, of New Haven; the Visual Tract, by Dr. A. N. Alling, of New Haven; The Value of Drugs in Therapeutics, by Dr. G. H. Wright, of New Milford. The general topic for open discussion was Epilepsy—Report of a Case. Dr. J. C. Kendall, of Norfolk, opened the discussion, being followed by others.

CHICAGO AND THE WEST.

Statement of Mortality in Chicago for the Week Ending April 21, 1906, compared with the preceeding week and with the corresponding week of 1905. Death rates computed on United States Census figures of midyear populations—2,049,185 for 1906 and 1,990,750 for 1905:

| | April 21,
1906. | April 14,
1906. | April 22,
1905. |
|-------------------------------------|--------------------|--------------------|--------------------|
| Total deaths, all causes..... | 645 | 621 | 558 |
| Annual death rate in 1,000..... | 16.40 | 15.80 | 14.56 |
| Sexes— | | | |
| Males..... | 363 | 356 | 307 |
| Females..... | 282 | 265 | 251 |
| Ages— | | | |
| Under 1 year of age..... | 119 | 108 | 108 |
| Between 1 and 5 years of age..... | 55 | 64 | 67 |
| Between 5 and 20 years of age..... | 55 | 32 | 40 |
| Between 20 and 60 years of age..... | 283 | 288 | 234 |
| Over 60 years of age..... | 133 | 129 | 109 |
| Important causes of deaths— | | | |
| Apoplexy..... | 13 | 10 | 15 |
| Bright's disease..... | 35 | 41 | 40 |
| Bronchitis..... | 31 | 17 | 25 |
| Consumption..... | 75 | 70 | 78 |
| Cancer..... | 28 | 21 | 32 |
| Convulsions..... | 7 | 5 | 12 |
| Diphtheria..... | 11 | 10 | 8 |
| Heart diseases..... | 40 | 56 | 45 |
| Influenza..... | 9 | 4 | 1 |
| Intestinal diseases, acute..... | 32 | 26 | 17 |
| Measles..... | 2 | 2 | 13 |
| Nervous diseases..... | 29 | 25 | 18 |
| Pneumonia..... | 122 | 133 | 72 |
| Scarlet fever..... | 13 | 17 | 3 |
| Suicide..... | 5 | 6 | 8 |
| Typhoid fever..... | 10 | 3 | 6 |
| Violence (other than suicide)..... | 37 | 35 | 20 |
| Whooping cough..... | 1 | 7 | 8 |
| All other causes..... | 144 | 131 | 135 |

BALTIMORE AND THE SOUTH

The Grant-Hampshire-Hardy-Mineral (W. Va.) Medical Society.—The following programme was arranged for a meeting held at Piedmont, W. Va., on Thursday, April 26th: Presentation and Report of Cases. Papers: Some Surgical Emergencies, by Dr. C. S. Hoffman, Keyser, W. Va.; What Can the County Society Do for the Local Physician? by Dr. M. F. Wright, Burlington, W. Va.

The Tennessee State Medical Association.—The election of officers at the annual meeting, held at Memphis, on Tuesday, Wednesday, and Thursday, April 10th, 11th, and 12th, resulted as follows: President, Dr. L. A. Yarbrough, Covington; vice-presidents, Dr. J. L. Andrews, Memphis; Dr. H. Padgett, Nashville; and Dr. J. R. Rathmell, Chatta-

The twenty-third annual meeting will be held at Atlantic City, N. J., August 14, 1926. The programme, as announced, is as follows: Presidential Address, "The Growing Importance of the Study of Climate," by Dr. E. L. Shurly, Detroit; A Plea for the Systematic Study of Climatology in the Medical Schools, by Dr. Henry P. Loomis, New York; A Comparison of Some Aesculapian and Modern Health Resorts, by Dr. A. J. H. Huddlestone, New York; The Water of Fiuggi, Italy, by Dr. Carlo Colombo, Rome; St. Moritz, Engadine, by Dr. Arnold C. Klebs, Chicago; The Irish Riviera, by Dr. Charles E. Nammack, New York; Observations on Plague in India, with lantern slides, by Dr. Judson S. Baland, Philadelphia; Winter Health Resorts of the South, by Dr. W. D. Coleman, of Augusta, Ga.; Administrative Control of Cerebrospinal Meningitis, by Dr. Thomas Darlington, New York; Remarks on the Rational Treatment of the Visceral Ptooses, by Dr. J. Madison Taylor, Philadelphia; The Combination of Pulmonary Tuberculosis and Cardiac Disease in New York city, by Dr. J. H. Huddlestone, New York; Some Cases of Acute Cardiac Degeneration, by Dr. Beverley Robinson, New York; Tachycardia of Early Pulmonary Tuberculosis, by Dr. William M. Gibson, Utica; Heart Block Case and Autopsy, by Dr. G. R. Butler, New York; Treatment of Chronic Heart Diseases by Nauheim Baths, by Dr. Philip King Brown, San Francisco; The Importance of the Temperature of the Individual as an Important Factor in Deciding the Location of a Case of Tuberculosis, by Dr. W. C. Glasgow, St. Louis; The Proper Bath for a Consumptive Patient, by Dr. Norman Bridge, Los Angeles. On the morning of the second day the first order of business will be a Symposium on Climatology and Balneology in relation to Renal Disease. (a) The Influence of Barometric Pressure, by Dr. Henry Sewall, Denver; (b) The Variability of Temperature, Wind and Humidity, by Dr. W. F. R. Phillips, Washington; (c) Balneology in Relation to Renal Disease, by Dr. C. C. Ransom, New York, and Dr. Philip Marvel, Atlantic City; The discussion will be opened by Dr. J. C. Wilson, Philadelphia; Deep Breathing as a Therapeutic and Preventive Measure in Certain Diseases of the Lungs, by Dr. John H. Fryor, Buffalo; The Fresh Air Treatment of Respiratory Diseases, Particularly Pneumonia, by Dr. J. M. Anders, Philadelphia; Climate in Relation to Disorders of Metabolism and Circulation, by Dr. Boardman Reed, Philadelphia; The Management of Far Advanced Cases of Pulmonary Tuberculosis, by Dr. Sherman G. Bonney, Denver; The Effect of Diphtheria and the Use of Antitoxine on Tuberculous Patients, by Dr. Lawrason Brown, Saranac Lake; Discussion by Dr. D. Braden Kyle. On Light, by Dr. W. D. Robinson, Philadelphia; Tuberculosis a Disease of Malnutrition, and Exhaustion, by Dr. R. H. Blair, N. J.; On the Apical Outline as a Diagnostic in Pulmonary Tuberculosis, by Dr. C. L. Minor, Asheville; The Value of Sputum in the Diagnosis of Pulmonary Tuberculosis, by Dr. M. Pottenger, Los Angeles; Statistics Covering Temperature and Sunshine in Lakewood, N. J., 1900-1905, by Dr. J. H. Huddlestone; The Climatology of

Pith of Current Literature.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

April 26, 1906.

1. The Significance of Jacksonian Epilepsy in Focal Diagnosis, with Some Discussion of the Site and Nature of the Lesions and Disorders Causing this Form of Spasm. By CHARLES R. MILLS.
2. An Operation for Cystocele. By W. P. GRAVES.
3. Some Influences in Favor of Better Market Milk. By R. A. PEARSON.
4. A Consideration of the Treatment of Autointoxication or Autoinfection Where They Are the Cause of Mental Disturbance. (Continued). By L. VERNON BRIGGS.

1. **The Significance of Jacksonian Epilepsy in Focal Diagnosis.**—Mills uses the term Jacksonian epilepsy in a broad sense as meaning monospasm or hemispasm due to cortical or corticosubcortical discharge, a spasm which usually exhibits, if closely studied, an initial symptom and a serial order of phenomena. A distinction needs sometimes be made between Jacksonian epilepsy and hemiepilepsy. Jacksonian spasm appears as a result from gross lesions of the cortex, especially in tumor and localized meningitis, in tumors of the cerebellopontile angle of the cerebellum, in tumors of the agglutinated dura and pia in the motor region, or from meningeal or cortical hæmorrhages, or local hæmorrhagic encephalitis. The author gives the history of several cases from which he deduces his conclusions referring to the diagnostic points.

2. **An Operation for Cystocele.**—Graves describes his method of operation as follows: Two points are selected on each side of the cystocele, about one half inch from the lateral creases, which, when drawn together, sufficiently reduce the cystocele and at the same time do not exert undue tension on the lateral flaps. With these four points as corners, a rectangle is then denuded. A point is next selected on the urethral tube which, when drawn down to the before mentioned points completely reduces the urethrocele. This area, too, is denuded as well as the corresponding area. In denudation of the indicated region great care should be exercised in making the denuded figure symmetrical, so as to gain perfect approximation of the edges. The wound should be closed with silkworm gut or chromicized catgut, except the outer points, where silver wire suture is used. After finishing the operation a perineorrhaphy should always be done. The operation as described depends for its success on the presence of pubic attachments.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

April 28, 1906.

1. The Parasitism of the Tubercle Bacillus and Its Bearing on Infection and Immunity (*To be continued*). By THEOBOLD SMITH.
2. A Plea for the International Study of Carcinoma. By NICHOLAS SENN.
3. Sixteen Years' Experience with Formic Acid as a Therapeutical Agent. By HEINRICH STERN.
4. A Practical Method of Abolishing the Cause of One Quarter of the Unnecessary Blindness in the United States. By F. PARK LEWIS.
5. Psychoses Resulting from Coal Gas Asphyxiation. By SANGER BROWN.
6. Malarial Infection in Certain Native Villages of the Canal Zone (*Concluded*). By ARTHUR I. KENDALL.
7. A Review of Cancer in the United States. According to the Twelfth Census. By GUTHRIE MCCONNELL.

2. **A Plea for the International Study of Carcinoma.**—Senn gives a literary review of the facts known of carcinoma, which are rather meagre. Still, one feature of this disease has been definitely settled, and that is that it begins as a local affection. In this stage it is amenable to successful treatment by an early operation. The author does not find sufficient proof of

its parasitic character against which theory speak the histology and histogenesis, besides inoculation experiments have only proved the negative side of the question, and he narrates of such an experiment, performed on himself with an absolute negative result. He concludes in saying that the study of carcinoma should be made international in all its phases, but with special reference to its ætiology as influenced by heredity, age, racial and social influences, climate and topography, habits, etc.

3. **Sixteen Years' Experience with Formic Acid as a Therapeutical Agent.**—Stern describes the method of preparation of formic acids, and gives a historical and literary review. Formic acid has been used in the treatment of atonic conditions of the urinary organs, vesical weakness, dropsy, paralysis, and gouty and rheumatic affections, in general, when a stimulant of the mucous membranes or a diaphoretic and diuretic agent was indicated. At present the French physicians have made extensive experiments with it. The effect of formic acid on the healthy human organism as studied by Stern, is as follows: In doses of two drops well diluted, it gives rise to no symptoms besides an occasional irritation in the throat and a feeling of warmth and emptiness in the stomach. In doses of five drops it causes a slight irritation in the pharynx and larynx; in doses of ten drops it exerts mild diuretic and diaphoretic influence; in doses of twenty drops it produces the same phenomena, but in a more pronounced degree, and gives rise to contracting sensation in the pyloric region when the stomach is empty. Administered to the amount of from three to four c.c., very well diluted, and when the stomach is empty, it causes dryness in the throat, ringing in the ears, slight vertigo, burning sensation in the gastric organ, and sometimes mild pyloric spasms, lassitude, slight motor disturbances, and elevation of temperature from one half to two degrees, which later is followed after one half hour or an hour by marked perspiration and increased micturition. In doses of 0.5 to 1 c.c., repeated three or four times a day for some weeks, it acts as a muscular irritant in some instances. It shows decided antiseptic properties. Stern has used it internally with benefit in cancer and, before the days of antitoxine, in diphtheria; it also is specially adapted to the treatment of the nervous manifestations of syphilis.

4. **A Practical Method of Abolishing the Cause of One Quarter of the Unnecessary Blindness in the United States.**—Lewis states that from a summary of carefully tabulated statistics it has been demonstrated that at least four tenths of all existing blindness might have been avoided had proper preventative or curative measures been employed, while one quarter of this, or one tenth of the whole, is due to ophthalmia neonatorum, an infectious, preventable, and almost absolutely curable disease. The medical profession, the lay public, and the State should all be aroused to do their duty in stamping out a controllable disease.

5. **Psychoses Resulting from Coal Gas Asphyxiation.**—Brown reports a case of asphyxiation from coal gas. The patient after a prolonged convalescence left the hospital after a stay of fourteen weeks. He reported incidents of early life and childhood usually well, recognized his old acquaintances and repeated their names, but had no recollection of anything that transpired from thirty-six to forty-eight hours prior to the accident nor what happened afterwards. He died suddenly three weeks after his discharge. The autopsy showed no significant macroscopic changes in the brain or cord, but unfortunately the parts were not preserved for microscopical examination. The lungs were markedly emphysematous, the heart considerably dilated, and there was a cyst of the left suprarenal capsule, the size of a large walnut. The author states that the peculiar brain changes which give rise to the phe-

BRITISH MEDICAL JOURNAL.

April 14, 1906.

1. Remarks on the Treatment of Tænia.
By J. K. FOWLER.
2. Psoriasis and Its Treatment. By P. S. ABRAHAM.
3. Eye Accidents and Compensation. An Analysis of One Hundred and Seventy Cases, By S. SNELL.
4. Important Symptoms in Diseases of the Eye.
By A. M. RAMSAY.
5. Tabes Dorsalis (*Lumleian Lectures, III*),
By D. FERRIER.

1. **Tænia.**—Fowler has had very favorable results with the following method of treatment of tænia: The patient is kept in bed, and for two, three, or in some cases, four days is given a diet, consisting of: Beef tea, two pints; Mason's essence, one tin; two rusks; and port wine, four ounces. During the same period the patient takes tabloids of cascara sagrada (two grains) three times a day. On the fourth day (usually) at 5 a. m., haustus sennæ co., one ounce; at 9 a. m. a capsule containing fifteen minims of the extract of male fern; at 9.15 ditto; at 9.30 ditto; at 9.45 ditto; at 11 a. m. haustus sennæ co., one ounce. If by 1 p. m. the worm has not been passed and the head found, a second course of treatment with male fern at intervals of fifteen minutes is begun; to be followed in an hour by a purgative draught. If the head is not found a third course of treatment is prescribed. It is rarely advisable to continue the treatment beyond this without an interval of a day, as the patient may be somewhat exhausted. The chief points of difference between this and other modes of treatment are: (a) Complete rest in bed; (b) prolonged period of restricted diet; (c) giving the drug in divided doses, thus making sure that it will not miss the worm, and also avoiding the nauseous taste of the drug by giving it in capsules; and (d) searching for the head of the worm. In twenty-two cases the head was found in seventeen, and a cure effected in two more—eighty-six per cent. in all. The male fern appeared to be just as effective against tænia medicocanellata as against tænia solium and bothriocephalus latus.

2. **Psoriasis.**—Abraham states that we do not, beyond all doubt, know the true cause of psoriasis. It is variously held to be: (a) A manifestation of the gouty or arthritic diathesis; (b) a purely local or external affection; (c) a parasitic disease communicable by contagion; and (d) a disease of "neuropathic" origin. Various microorganisms have been described as occurring in association with the disease, but the evidence is untrustworthy. Females seem to be more often affected with the disease than males, the ratio being as 1.7 to 1. Psoriasis should really be regarded as a disease of early life; in a majority of cases the disease begins in early youth. Although psoriasis is not a hereditary disease, it is possible that there is a hereditary tendency to the disease. It is looked on by some as "the skin disease of good health," but there is probably something constitutionally and functionally wrong in a very large number of the cases, only manifested it may be, by such symptoms as constipation, etc. External medication is undoubtedly more efficacious than internal; the eruption of psoriasis always disappears under tarry applications adequately used, and still more rapidly and certainly under chrysarobin. There is no one drug administered internally which can rightly be regarded as a specific for psoriasis. Arsenic is of very little value in most cases; thyroid gland is beneficial in a few. Magnesium sulphate, with iron and a bitter tonic, is often useful. In every case in which there is the least suspicion of an excess of uric acid in the system, salicylates and alkalis should be given. The author's favorite mode of treatment is to order ten minutes thorough soaking in a weak tar bath (one drachm of creolin from gas tar in six gallons of water), and the use of the following ointment:

Creolin, one to two drachms; salicylic acid, ten grains; ammoniated mercury, ten grains; lanolin and petrolatum, to one ounce. If progress is slow, ten to twenty grains of chrysarobin should be added to the ointment. For psoriasis of the scalp the following ointment should be used for a few weeks: Ammoniated mercury, one drachm; soft soap; petrolatum, one ounce. Resorcin or some tarry oil may be added if necessary.

5. **Tabes Dorsalis.**—Ferrier, in his third Lumleian lecture, discusses the physiological pathology of tabes dorsalis: Of all the symptoms ataxy is the most characteristic. The ataxic and amaurotic (those with optic atrophy) forms of tabes are often more or less distinct, but are not exclusive of each other, as is illogically held by some observers. The disease is essentially an affection of the sensory spinal protoneurone, whether in its ganglionic cell, peripheral, or intramedullary process, and in this must be sought the explanation of its most important symptom. For all other changes are either inconstant, mere concomitants, or results of the primary sensory degeneration. The motor neurone is intact; the electrical reactions of the muscles are normal, and their dynamic strength not necessarily impaired. The paths of impulse from the cortical centres are free from degeneration. Tabetic ataxy depends on impairment or loss of centripetal impressions of all kinds, conscious as well as unconscious. One of the most characteristic features of tabetic ataxy is the overaction of the prime movers. This is manifested in almost every form of voluntary movement. But this is not all, nor is it the most important factor in the sudden and immoderate character of the prime movements of the ataxic. This consists in the hypotonia and default of the afferent impressions which normally secure the development of the reflex resistance of the antagonists. The default of the centripetal and subcortical impressions is exemplified in many other different ways. The tabetic or Argyll Robertson pupil consists in the loss of the reflex contractions of the pupil to light, while that on convergence and accommodation remains. Its pathology is a subject of great difficulty, for the mechanism of pupillary variations is not thoroughly understood. The author thinks it is not improbable that in tabes the ciliary ganglion and ciliary nerves are so affected that, though they cannot transmit the reflex impulse of light to the sphincter pupillæ, they can readily allow the more powerful stimulus associated with accommodation to pass through.

LANCET.

April 14, 1906.

1. Tabes Dorsalis (*Lumleian Lectures, III*)
By D. FERRIER.
2. On Appendicostomy and on Appendicectomy as a Substitute for Cæcal Colotomy: Appendicostomy and Enterostomy in the Treatment of Typhoid Fever,
By C. B. KEETLEY.
3. Some Points in the Treatment of Chronic Bright's Disease,
By S. WEST.
4. On the Management of the Third Stage of Labor,
By G. F. BLACKER.
5. The Influence of the Nervous System and External Temperature Upon Certain Circulatory Changes Concerned in the Ætiology of Catarrh, Ulcer, and Simple Dilatation of the Stomach, with Suggestions as to Treatment,
By A. MANTLE.
6. A Case of Glioma of the Pons,
By G. SCHORSTEIN and A. J. WALTON.
7. On the Relationship Between Graves's Disease and Acute Rheumatism,
By W. E. ROBINSON.
8. Two Cases of Otitic Lateral Sinus Phlebitis, One Complicated with Cerebellar Abscess,
By D. GRANT.
9. The Turk's and Caicos Islands as a Health Resort for Cases of Pulmonary Tuberculosis,
By G. S. S. HIRST.
10. The Utility of Isolation Hospitals. By J. C. THRESH.
11. The Mysterious Illness of Mary, Queen of Scots,
By E. S. YONGE.

PRESSE MEDICALE

March 31, 1906.

1. Physiological Cholemia,
By A. GILBERT and M. HERSCHER.
2. The False Gastropathies. Their Diagnosis and Treatment,
By J. DETERENE and E. GAUCKER.
2. The False Gastropathies. Their Diagnosis and Treatment. Dejerine and Gauckler demonstrated in the last number the existence of false gastropathies, and deal in this with the diagnosis and treatment. The principal elements upon which a diagnosis is to be based are a moral origin, extreme variability, depending on the contingencies of life, with an excessive and illogical symptomatology. Treatment is to be directed to the nervous origin.

April 4, 1906.

1. The Variations of Physiological Cholemia,
By A. GILBERT and M. HERSCHER.
2. Thyminic Acid,
By A. BRETON.
3. Narcosis and Autonarcosis by the Method of Schleich,
By R. ROMME.

1. **Physiological Cholemia.**—Gilbert and Herscher call attention in their previous paper to the fact that the serum of the blood presents a yellow tinge which varies in intensity in different animals, and is due to the presence of a coloring material denominated by serochrome and believed to be identical in the human blood serum with bilirubine. In this issue the authors proceed to determine its degree by a cholometric method, a description of which would require too much space. They find that the bilirubine in the blood serum of human beings during extrauterine life varies from 1:28000 to 1:40000, average 1:36500, or 2.7 centigrammes of bilirubine to one litre of serum. During intrauterine life the proportion of the bilirubine in the blood serum is very much less, from 1:17800 to 1:5800, average about 1:10000.

2. **Thyminic Acid.**—Breton describes this acid which was obtained by Minkowski from the subdivision of nucleic acid, and is used to promote the solubility of uric acid. Its chemical formula is given as $C_{30}H_{46}N_4O_{12}P_2O_8$. It appears as a brown amorphous powder, slightly hygroscopic, with a slightly acid reaction, almost tasteless, soluble in water and insoluble in alcohol.

April 7, 1906.

1. New Operation for Intraperitoneal Shortening of the Round Ligaments. Retrouterine and Subtuboovarian Ligamentopexy,
By DARTIGUES and CARAVEN.
2. The Systolic Murmur of Pure Aortic Insufficiency,
By ALPHONSE CALABRESSE.
3. The Dietetic Regimen of the Japanese Army and of the Principal European Armies,
By P. LABBE.

1. **New Operation for Intraperitoneal Shortening of the Round Ligaments.**—Dartigues and Caraven describe in detail an operation in which the round ligaments are brought down so as to form two loops behind and below the uterus, and then are sutured in this position.

2. **The Systolic Murmur of Pure Aortic Insufficiency.**—Calabresse takes issue with Miguel Couto with regard to the recently published views of the latter as to the interpretation of the systolic murmur heard in pure aortic insufficiency and upholds the views ordinarily accepted.

SEMAINE MEDICALE.

April 4, 1906.

The Alterations of Objective Sensibility in Spasmodic Syphilitic Paraplegia,
By NOICA and S. MARBE.

Alterations of Sensibility in Spasmodic Syphilitic Paraplegia.—Noica and Marbe state that these are very variable. In one class of cases they may be limited to superficial sensibility, be very slight and localized, and consist of tactile anæsthesia, either alone, or associated with anæsthesia toward heat or pain. In a

second class, also limited to the superficial sensibility, there may be anæsthesia to heat and to pain over certain areas of the lower extremities with preservation of the tactile sensibility. In a third class the alterations in the superficial sensibility are slight, while those of the deep sensibility are very marked. In the fourth class both the superficial and deep sensibility is affected, while a fifth class is characterized by a diminution of motility more marked on the right side than on the left, associated with very intense changes of the superficial sensibility on the left side and only slight ones on the right.

April 11, 1906.

Treatment of Pulmonary Tuberculosis by the Production of Artificial Pneumothorax

Treatment of Pulmonary Tuberculosis by the Production of Artificial Pneumothorax.—In this unsigned article the results which have been reported as obtained by Murphy, of Chicago; Braun, of Marburg, and others are discussed.

BERLINER KLINISCHE WOCHENSCHRIFT.

April 2, 1906.

1. Modern Therapeutics of Chronical Diseases of the Heart,
By F. A. HOFFMANN.
2. The Relation Between Diseases of the Heart and the Digestive Tract,
By A. SCHMITT.
3. The Treatment of Nephritis,
By A. STRASSER and R. BLUMENKRANZ.
4. Nervosity as Sequela to Gynæcological Operations,
By O. KAISERLING.
5. The Action of the Tubercle Bacilli at the Entrance Gate of the Infection.
By A. UFFENHEIMER.
6. Disturbances of the Ocular Sphere of the Trigemini, with Special Reference to the Reflex of the Cornea, and Its Diagnostic Value (Concluded),
By KEMPNER.
7. Arteriosclerosis and Nephritis (Concluded),
By F. HIRSCHFELD.
8. The Newer Purgatives,
By MAASS.

2. **The Relation Between Diseases of the Heart and the Digestive Tract.**—Schmidt calls the attention to the relation between diseases of the heart and the digestive tract. The patients complain about an accumulation of gas in the stomach and intestines which they observe after each meal. The reason for this sensation seems to be a deficient absorption of the gases produced during digestion of the bloodvessels. The defective circulation of the venous blood from the vessels of the stomach and intestines is probably also responsible. The diagnosis rests principally upon the temporary connection of the heart phenomena and the disturbances of digestion. It is easily discerned in the periodical or paroxysmal forms, while a continued observation will be necessary in the chronic cases. It is possible that an abnormal sensitiveness of the nervous system of the stomach plays an important rôle. The same can be said of the nervous system of the heart. The heart should always be carefully examined even if absolute signs of a disease of this organ are missing. If such functional affections of the heart are missing the prognosis is favorable. The therapeutics must attend first of all to the disturbed digestion. Besides, careful dieting, Faradisation, and massage is spoken of. But the symptoms of the heart should also be treated, rest in bed, digitalis. Under certain conditions disturbances of the stomach must be treated through the heart and vice versa.

3. **The Treatment of Nephritis.**—Strasser and Blumenkranz make a preliminary report of observations made in the treatment of nephritis by the use of temperate baths, 34 to 35° C., of prolonged duration, about one to one and a half hours; the baths may be given once or twice daily, while a longer immersion showed less favorable results. They were led to the adoption of this treatment by experiments showing that the blood circulation in the kidney would be the best and

most rapidly of all present stimuli, would be as much as possible excluded from the work of the body, a condition to be aimed at, a temperature prolonged under 38°.

MONSIEUR M. DE LA FAYE, A. G. M. S. G. R. F.

April 2, 1906.

1. The Treatment of Acute Inflammation by Hyperemia. By J. DE LA FAYE.
2. The Treatment of Acute Inflammation by Hyperemia. According to Bier's Method. By E. BESTMEYER.
3. Spinal Anesthesia in the Scopolamine-Morphine Narcosis. By O. WIESENKOWITZ.
4. Spinal Anesthesia in the Scopolamine-Morphine Narcosis. By O. WIESENKOWITZ.
5. The Treatment of Acute Inflammation by Hyperemia. By J. DE LA FAYE.
6. The Treatment of Acute Inflammation by Hyperemia. By J. DE LA FAYE.
7. The Treatment of Acute Inflammation by Hyperemia. By J. DE LA FAYE.
8. The Treatment of Acute Inflammation by Hyperemia. By J. DE LA FAYE.
9. The Treatment of Acute Inflammation by Hyperemia. By J. DE LA FAYE.
10. The Treatment of Acute Inflammation by Hyperemia. By J. DE LA FAYE.
11. The Treatment of Acute Inflammation by Hyperemia. By J. DE LA FAYE.
12. The Treatment of Acute Inflammation by Hyperemia. By J. DE LA FAYE.
13. The Treatment of Acute Inflammation by Hyperemia. By J. DE LA FAYE.
14. The Treatment of Acute Inflammation by Hyperemia. By J. DE LA FAYE.
15. The Treatment of Acute Inflammation by Hyperemia. By J. DE LA FAYE.
16. The Treatment of Acute Inflammation by Hyperemia. By J. DE LA FAYE.
17. The Treatment of Acute Inflammation by Hyperemia. By J. DE LA FAYE.
18. The Treatment of Acute Inflammation by Hyperemia. By J. DE LA FAYE.
19. The Treatment of Acute Inflammation by Hyperemia. By J. DE LA FAYE.
20. The Treatment of Acute Inflammation by Hyperemia. By J. DE LA FAYE.

1. 2. The Treatment of Acute Inflammation by Hyperemia.—There is of the opinion that Bier's method should be carefully applied in only light cases, as it will rarely do more than good, and that it will become necessary to resort to the mildest cases to support the treatment through incisions in the inflamed areas. Bestelmeyer's report shows favorable results of 144 cases of acute inflammation treated, according to Bier's method.

3. Spinal Anesthesia in the Scopolamine-Morphine Narcosis.—The author gives a report of 10 cases treated by the symmetrical fluid of the university at Freiburg with the following method: The author gives a 0.0003 morphine and 0.0003 scopolamine injection two and a half to three hours before operation, which injection is repeated after an interval of an hour. The patients who have been thoroughly prepared for the operation are thus brought into the darkened operating room and their ears are plugged with cotton. Then they present the picture of a deep chloroform narcosis and have no recollection of the following procedure. Under ethyl chloride spray the lumbar puncture is performed and the stovaine adrenalin solution injected. Of the cases thus treated ninety-four were minor gynecological operations. The results were very satisfactory. When it was nearly always absent, it was reduced four times, the general condition of the patients was much stronger, no symptoms of pain or of the operation were found. The only bad after results were headache (twice), nausea, and temporary weakness (twice).

ZENTRALBLATT FUER GYNAKOLOGIE

March 31, 1906.

1. The Treatment of Acute Inflammation by Hyperemia. By J. DE LA FAYE.
2. The Treatment of Acute Inflammation by Hyperemia. By J. DE LA FAYE.
3. A New Aid for Extraction of the Breech. By O. WIESENKOWITZ.

4. Danger of Atmœmia.—Friedl maintains that a postmœmia in the uterus in a typical curettage is not to be regarded as a symptom of the disease. He says that the disease is complicated in all cases by a local inflammation of the uterus as well as by a general inflammation of the body. He says that the disease is complicated by hemorrhage of the uterus and by a general inflammation of the body.

atmœmia has proved ineffectual. The combination of curettage with atmœmia has its indications; it is the method of choice in the menopause, but should be the exception during the reproductive years. Atmœmia should follow the curettage only after an interval of from six to eight days. The uterus must be empty; it must contain no growths, placental remnants, mucus, or fluids. When thus properly performed for proper indications, atmœmia is free from danger, according to Friedl.

3. Extraction of the Breech.—Wienskowitz suggests the employment of rubber hose, or the size of a sprinkling hose, which is interwoven with canvas. It is elastic, can be easily sterilized, and has not enough "give" to stretch without bringing the breech with it. He has employed it satisfactorily in seven cases by slinging it easily over the groin. No injury to the child has been noted, the hose stretching so evenly over the groin that it does not injure the nerves and blood-vessels.

April 7, 1906.

1. A Case of Puerperal Tetanus Following Abortion. By P. SEEGERT.
2. Postoperative Tetanus. By E. MARTIN.
3. Extraction of a Head Torn Off During Labor. By H. ROTTER.

1 and 2. Tetanus.—Seegert reports a case occurring in the clinic in a woman who developed tetanus seven days after a spontaneous abortion. No curettage or tamponade had been made. No method of treatment, including Behring's tetanus antitoxine, was of any avail. In view of this fact, the author recommends total extirpation of the uterus and the use of the antitoxine as soon as the diagnosis is made. Martin reports a case operated in the Greifswald clinic for perimetritis, lacerated cervix, and prolapse of the anterior and posterior vaginal walls. On the fifth day the patient had tetanus and died. The autopsy was negative. The source of infection was undoubtedly the vagina, which had been prepared for operation in the usual manner.

ZENTRALBLATT FUER CHIRURGIE

April 7, 1906.

1. The Technics of Spinal Analgesia. By HACKENBRUCH.

1. Spinal Analgesia.—Hackenbruch gives his technics as follows: After thorough disinfection of the skin, the skin is infiltrated in the median line directly beneath the second lumbar vertebra. The skin is incised for from one sixth to one quarter of an inch, and the aspirating needle with its mandarin is carried through the cutaneous slit for a distance of about an inch. The mandarin is then removed and the needle pushed in until there is a good flow of cerebrospinal fluid. This is followed by the injection of the stovaine suprarenal solution, the withdrawal of the needle, and the dressing of the minute skin wound.

GAZZETTA DEGLI OSPEDALI E DELLE CLINICHE

April 1, 1906.

1. The Cause of the Anæmia Due to Ankylostoma. By Professor PANICCIOTTI.
2. The Pathogenesis of the Anæmia Due to the Ankylostoma. By ANTONIO VERTI.
3. The Persistence of Laryngeal Stenosis After Intubation and Tracheotomy of Children. By GIROLAMO COPPETTI.
4. A New Method of Ligature for the Innominate Artery. By ENRICO GIORDANO.

2. The Cause of the Anæmia Due to Ankylostoma.—According to Verti, there is no doubt that the anæmia in ankylostomiasis is due to a virus which has its origin in the worm. In all probability this virus affects the body as a whole, but chiefly the bone marrow. The cause of the anæmia due to ankylostoma is not a direct action of the virus upon the red cells, but the toxic

effect spoken of above. At the beginning of the disease the anæmia is therefore due to causes which have nothing to do with hæmolytic, but later other factors enter, including hæmolytic.

3. The Persistence of Laryngeal Stenosis After Intubation.—Coppetti records a number of cases in which intubation was performed, but which necessitated a long period of observation and repeated intubation on account of persistent stenosis of the larynx, although no mechanical obstacle, such as ulceration, swelling, granulation, etc., was present. He attributes the persistent stenosis in these cases to a reflex mechanism, which produces spasm of the glottis and points out that the attacks of stenosis on removing the tube were very sudden, not infrequently accompanied by convulsions and that the cases occurred in infants who were evidently predisposed to spasmodic contraction, that is, who were the prey of "spasmophilia," which was associated with rickets. In a separate group of cases which were also observed by the author, the stenosis could not be referred to reflex spasm of this type, but was evidently due to a spasm arising in the respiratory tract, especially in the lungs. Both types of spasm, however, may be combined in the same patient.

RIFORMA MEDICA.

March 24, 1906.

1. The Diagnosis of Intracranial Tumors. By A. MURRI.
2. Fatty Degeneration of the Liver in Infections, By PAOLO BUERI.
3. The Newest Method in the Diagnosis of Cancer of the Stomach. Researches on the Biological Reaction, By ALFREDO SANTINI.

2. Fatty Degeneration of the Liver in Infections.—Bueri finds that fatty degeneration is absent or slightly developed in acute infections, not because these processes are incapable of producing this change in the liver, but because they are so rapid that the organ has not time enough to undergo these changes before the patient dies. The fatty degeneration of all the endothelial cells of the capillaries of the liver which is so frequently found in acute infections shows that these acute processes are capable of producing a marked degree of fatty degeneration. The endothelial being in immediate contact with the toxic substances circulating in the blood, they are the first to feel the effect of the infectious product. In all cases of fatty degeneration of the liver the process begins at the periphery of the hepatic lobule, and proceeds centripetally, so that very often the fat may be found only at the periphery of the lobule, showing incidentally that the cause of the degeneration, whatever it may be, comes undoubtedly from the portal system. When the fat is deposited in the centre of the lobule the degeneration is due to a circulatory cause (stasis). There is no gradual transition between fatty degeneration and cellular necrosis, for the foci of necrosis which are seen in acute infectious diseases of the liver are sharply circumscribed and separated from the surrounding areas of fatty degeneration. The granules of fat are made evident very readily with the aid of Sudan III. The same stain also shows reddish brown granules in the hepatic cells which are neither fat nor pigment, but probably the product of a special degeneration. These granules are frequently met with in acute and rarely in chronic infections, and may exist even when there is but little fatty degeneration. They are especially numerous in the cells near the centre of the acinus.

3. New Methods of Diagnosis in Cancer of the Stomach.—Santini records the results of his investigations as to the value of Solomon's method of diagnosis in cancer of the throat. This test consists in obtaining what is assumed to be some of the albuminous secretion from the tumor in the stomach by carefully washing the organ, administering a test meal devoid of proteid substances, then washing once more, allowing the pa-

tient to fast for several hours and finally washing again with 300 or 400 c.c. of physiological salt solution. The liquid thus obtained is tested for albumin by means of Esbach's reagent, or a similar method, and if a proteid substance be found, the presence of a gastric tumor is probable. The test has the disadvantage of giving positive results in ulcer of the stomach and at times even in simple neuroses. It is also limited in application to cases of cancer in which ulceration has already taken place. Another method of diagnosis which is extremely delicate is the so called biological reaction which has recently been employed in cancer of the stomach. Several different modes of performing this reaction have been tried, but according to Santini the best is that recommended by Maragliano, who proposed to obtain this reaction directly in the stomach instead of in the blood serum of the patient. The material for the injection was cancerous juice and pulp from the stomachs of fresh cadavers. This material was dissolved in physiological salt solution to which a little chloroform was added as a preservative. The fluid was allowed to stand for thirty days, and the chloroform was eliminated in vacuo. This material is then injected into the peritoneal cavities of rabbits in increasing doses and the serum of these rabbits produces an abundant precipitate when treated with a clear filtrate from the immunizing fluid. The serum of these rabbits is used for the purposes of testing material obtained from cancerous tumors in patients. The author concluded that the reaction is not specific for cancer of the stomach. The reaction, in fact, occurred in one normal individual, and was probably due to the precipitation of rabbits' albumin by human albumin.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

March, 1906.

1. Late Results of the Treatment of Inoperable Sarcoma by the Mixed Toxines of Erysipelas and Bacillus Prodigiosus, By W. B. COLEY.
2. Treatment of Selected Cases of Cerebral, Spinal, and Peripheral Nerve Palsies and Athetosis by Nerve Transplantation, By W. C. SPILLER, C. H. FRAZIER and J. J. VAN KAATHOVEN.
3. The Function of the Left Prefrontal Lobe, By C. PHELPS.
4. On "Double Eye," with Report of an Unusual Case, By A. GORDON.
5. Three Cases of Traumatic Brown-Sequard Paralysis, By J. GRINKER.
6. Hæmophilia in the Newly Born, with Report of a Case, By R. C. LARRABEE.
7. Pulmonary Gangrene Following Foreign Bodies in the Bronchi, By T. W. CLARKE and D. MARINE.
8. Rhythmic Lateral Displacement of the Heart as a Sign of Unilateral Pleuritic Exudate, By C. L. GREENE.
9. Orthostatic Albuminuria, a Clinical Study of a Case, with Special Experiments Showing the Cause of the Variations in Amount of Albumin, By O. A. KENNEDY.
10. Aspiration in Acute Articular Rheumatism, By F. J. B. CORDEIRO.
11. The Rationale of the Röntgen Ray, By J. W. HUNTER, JR.

1. Treatment of Inoperable Sarcoma.—Coley has been using mixed toxines for inoperable sarcoma since thirteen years, and makes the following suggestions: 1. One should begin with a minimum dose; the more vascular the tumor the severer the reaction. 2. The dose should be much smaller for local than for interstitial injections remote from the tumor. In the former $\frac{1}{4}$ to $\frac{1}{2}$ minim, in the latter 1 minim. 3. Dosage should be increased until there is a chill and temperature of 101° to 104° F. 4. If possible injections should be made every day, otherwise every other day. 5. If the tumor is difficult of access injections should be made into the thigh, buttocks, or abdominal wall. 6. If the tumor becomes soft it should be opened and drained. 7. A tonic should be administered during the treatment

after extracting the kidney on to the abdominal wall to determine the presence of stone. He called particular attention to the danger of overlooking some of the stones when operating for renal calculi.

Dr. FRED KAMMERER had formerly been in the habit of using the lateral position, but recently had been placing the patient on his face, with a pillow under the abdomen. In large kidney tumors there was no position better than the lateral. The difficulty in exposing the kidney through a lumbar incision seemed to rest with the upper pole of the organ, when the latter was at all enlarged. He had been removing the eleventh and twelfth ribs in almost every case of this kind of late. This added so little to the risk of the operation and was so rapidly accomplished that it ought to be more frequently resorted to, considering that much unnecessary manipulation of the organ could thus be avoided. The great question, of course, was whether or not the kidney was infected. Secondary nephrectomy was often required. It was an open question whether it was better to do a primary nephrectomy. Often it was better to incise the organ and remove it later. He had had good results from this practice. Hemorrhage during nephrotomy was very important, but had occasionally been treated very lightly in the literature of the subject. He had seen very severe hemorrhage occur, even when the kidney was incised in the median line. The best way to check it, when drainage was used and the organ could not be sutured, was to pack around it and then tampon the incision into the kidney.

Dr. GEORGE F. SHIELS said it seemed to him a matter of very little importance what incision was used, so long as the kidney was reached and removed. The disposition to name incisions after any particular surgeon was misleading, as it cramped the judgment of the operation. The incision should be made at the time of the operation according to the judgment of the operator and the character of the case, and not according to hard and fast rules. He doubted whether men were always able to examine the male ureteral openings with success. Men boasted of being able to introduce catheters into all ureters and make accurate diagnoses, but he had often seen them fail. Laparotomy was not dangerous, and he suggested, when in doubt, the advisability of doing simple laparotomy, so that the kidneys could be palpated before they were operated upon. He always approached a case of nephrectomy with dread, on account of the possible disease of the kidney of the opposite side.

Dr. WINFIELD AYRES said that the ureters could be catheterized in ninety-five to ninety-seven per cent. of cases by the use of both the direct and the prismatic cystoscopes. Catheterism of the ureters removed the dread of not knowing the condition of the other kidney. He did not think laparotomy would afford much information about the other kidney. If the urine was collected from the other kidney and examined by a capable pathologist, the condition of that kidney could be determined with accuracy. Cystoscopy was not serious, and rarely called for an anæsthetic.

The CHAIRMAN had had no experience with either the clamp or the elastic ligature in controlling hemorrhage during operations on the kidney. He was afraid to use the clamp, for fear the pressure would be too great. He had found that if the ureter was well separated from the vessels of the pedicle, the vessels could be well controlled by pressure made by an assistant. He always attempted to sew up the kidney. If the incision in the kidney was made too far anteriorly or posteriorly, some branches of the renal artery would be cut and cause considerable hemorrhage. These could be ligated, but were difficult to catch. Adrenalin could be used in some cases. He thought that catheterism of the ureters was of great value in determining

the working power of the kidneys, and there was nowhere where it was done as well as in New York. He thought that was due partly to the different forms of instruments used in this country. He exhibited an apparatus that he used for maintaining the posture of the patient in renal operations.

Femoral Hernia of the Bladder.—This case was reported by Dr. GEORGE F. SHIELS. The patient, a woman, gave the usual signs of femoral hernia. An operation was done for the radical cure of the hernia. When the operator came to what seemed to be the sac, it did not have the usual appearance. It could be reduced, but seemed to be adherent to the crural canal proper. The abdomen was opened in the middle line below the umbilicus, and it was found to be a hernia of the bladder. The portion of the bladder in the hernial sac was resected. Dr. Shiels said he could not find any similar case reported in literature.

Dr. TAYLOR said that while he was a house surgeon, Dr. Ware had had a case of strangulated femoral hernia in which the bladder was in the sac.

The CHAIRMAN had had three or four cases of inguinal hernia where the bladder was in the sac. In one of these he had cut into the bladder. The wound in the bladder was closed, and the patient made a satisfactory recovery.

Dr. KAMMERER had found this condition in inguinal hernia. He asked why a catheter had not been inserted into the bladder. He thought that in all these cases a curved catheter should be passed and an attempt made to pass it into the cul de sac.

Dr. SHIELS said that catheterism had been neglected because he had not had the slightest idea that the case was one of hernia of the bladder.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting of February 7, 1906.

The President, Dr. ARTHUR V. MEIGS, in the Chair

Resection of the Knee.—Dr. G. G. DAVIS exhibited a patient on whom he had done resection of the knee for ankylosis resulting from rheumatism. A very satisfactory degree of motion had been obtained. The knee had been ankylosed at an angle of 30°. The operative result allowed the patient to bring the knee at right angles with the thigh when in the sitting posture. The piece of bone removed was unusually large.

The Anatomical Basis for the Treatment of Scoliosis by Exercise.—Dr. R. TAIT MCKENZIE, in a paper with this title, said that in the infant spine there was but one curve, with the convexity backward and involving the total length. This curve was best seen in the sitting posture. With the assumption of the upright position a sharp lumbar curve made its appearance, with the convexity forward, and the anterior ligaments and psoas muscle were put on the stretch, as the pelvis was tilted forward, while the erector spinæ was increased in size and power. This curve was followed by a curve in the upper dorsal region, compensating in character, while a third in the cervical region took the same direction as the lumbar curve.

These three curves were physiological and were found in the normal adult spine. The integrity of these normal curves was protected against the onset of deformity by three lines of defense of increasing strength by the muscles forming an advanced mobile series of outposts that could be brought into service powerfully, but intermittently; by the ligaments, more resistant, but less mobile; and by the bones, which yielded to the influence of deformity only after the two other lines of defense had been carried. After the deformity had altered the bony structure any treatment must be more or less cosmetic in character, aiming at concealment rather than at complete correction.

Dr. JAMES TYSON referred to the fatal termination

of gastric ulcer by hæmorrhage when the presence of the ulcer was entirely unsuspected and to the occurrence of similar cases when cirrhosis of the liver was unsuspected, so that the settling of the question became a matter of probabilities. He thought, however, that in the consideration of such a case, without the presence of symptoms suggestive of gastric ulcer, it would be safe to regard it as one of cirrhosis of the liver. A diagnosis based upon scientific reasoning he believed to be practically impossible in a certain number of cases.

Bearing upon Dr. Musser's case, he referred to a case seen with Dr. J. P. Crozer Griffith within the last ten days, which Dr. Musser had also seen in the early stages. The patient was an athlete in apparently perfect health. He was seized with a mild chill on Wednesday, and the condition was diagnosed as influenza. On Saturday he was regarded as convalescent. Early on Sunday morning there was suppression of urine, and the case was considered one of nephritis and a rather careful prognosis given. Between noon on Sunday and five o'clock there supervened a complete change of symptoms. He was in collapse and the pulse was thready. Death occurred at seven o'clock. Dr. Richard H. Harte had seen him in consultation on the surgical side, and could only conclude that there had been perforation, probably in the duodenum at the upper end. An autopsy was made by Dr. Warfield T. Longcope.

Dr. LONGCOPE stated that the report of the autopsy was not yet completed, but that it would very probably show that there had been a perforating ulcer of the duodenum resulting in general peritonitis.

Dr. JOHN B. ROBERTS thought the point of special interest in Dr. Taylor's case was that after the operation there occurred adhesion of the omentum to the abdominal wall, making what might be called an unintentional attachment such as was done for cirrhosis of the liver. He suggested that Dr. Taylor indicate any result which he thought might or might not have occurred following this unintentional Talma's operation.

He thought the case of Dr. Musser showed that in instances of hæmorrhage which were doubtful the abdomen should be opened and the liver examined for cirrhosis as well as the stomach and duodenum for ulcer. He had been much shocked a year before on account of postponing an operation for ulcer of the duodenum until "the day after to-morrow," and had had perforation occur earlier than it had been expected. He thought it better to go ahead and do what seemed to be indicated, even if sometimes an operation was done unnecessarily. He saw no reason for not making the operative examination.

Dr. EDWARD MARTIN said that in this particular case reported by Dr. Musser, the diagnostic symptoms were all present. There were sudden agonizing pain, shock, and depression of temperature, followed by a hurried pulse, local tenderness, and rigidity, and the diagnosis of perforation was fairly clear, as there was a preceding history of gastric ulcer. There was also albuminuria. The pain was not only anterior, but referred to the back. Dr. Martin regarded those cases as most deceiving in which the parietal peritonæum was not involved, and said it was possible to have a central peritonitis with no pain, no rigidity, and no tenderness, the only symptoms being those of septic absorption and some albuminuria, which was likely to become more pronounced as the absorption increased.

Dr. S. SOLIS COHEN, referring to the difficulty of diagnosis between sudden hæmorrhage from gastric ulcer and sudden hæmorrhage from latent cirrhosis of the liver, recalled a case with gastric hæmorrhage and a history of alcoholism, but absolutely no history of gastric distress of any kind. The more complete silence of the liver over the stomach led to the diagnosis of gastric ulcer rather than cirrhosis of the liver. The

profound prostration contraindicated an operation. At the autopsy there had been found more than twenty erosions and ulcers of the stomach. Death had occurred from a second hæmorrhage while the patient was in the hospital, from a more recent large gastric ulcer. Careful inquiry into the history showed complete silence regarding both the liver and the stomach. He did not think, therefore, that it was justifiable in every case to conclude that the liver was at fault. As Dr. Tyson had said, the question came down to that of a happy guess.

Dr. WILLIAM L. RODMAN referred to the general conclusion that it was practically impossible in one third of the cases to make an accurate diagnosis between gastric ulcer and cirrhosis of the liver. He thought it evident from a study of literature that gastroenterostomy in cirrhosis could not possibly do the same amount of good as it did in gastric ulcer. The difficulty of controlling hæmatemesis and epistaxis in cirrhotic patients, owing to the lack of coagulability of the blood was well known. With an accurate diagnosis of cirrhosis, he believed it was always unwise to do so serious an operation as gastroenterostomy. This, however, was not said in criticism of Dr. Taylor for his operation, for under the circumstances he would probably have done the same thing. He felt that Dr. Musser was to be congratulated upon his accurate diagnosis, inasmuch as duodenal ulcers, not particularly common in women of any age, were very uncommon in women so young as the patient in whom this one had occurred. The best diagnostic point undoubtedly was the one made by Dr. Musser, the deferred pain, three or four hours after the taking of food, instead of almost immediately after, as in the case of gastric ulcer. The disproportion of duodenal ulcers in the two sexes was shown by a ratio of eight in men to one in women. They were more apt to occur in persons past forty than under this age. Dr. Rodman cited the case of a patient ten years younger than Dr. Musser's upon whom he had operated twelve days before for duodenal ulcer resulting from a very extensive burn received in a fire some eighteen months before, since which time on a number of occasions the patient had almost bled to death.

Dr. JOHN H. GIBBON said that he had seen Dr. Taylor's case after the first profuse hæmorrhage. An operation had not seemed justifiable then, because the man was cirrhotic and because of the fact that a single gastric hæmorrhage did not call for an operation unless life was threatened. He felt that repeated small hæmorrhages were really the most dangerous. Dr. Musser's case was of special interest to him inasmuch as he had a patient at the time convalescing from perforation at the pylorus, in whom the symptoms were similar. The symptoms, which had extended over a period of three years, had been thought to be of neurotic origin. The patient had been suddenly seized with severe pain and an operation was done four hours later. This was Dr. Gibbon's sixth case of perforating gastric and duodenal ulcer. In this recent case the ulcer was a very old one, and owing to the large amount of induration he had had difficulty in turning in the edges of the ulcer. The man had had no food by the mouth for twenty-one days, and was now, six months since the operation, taking an ordinarily full diet and had no gastric symptoms.

Dr. J. ALISON SCOTT thought that in cases of gastric hæmorrhage the cause should be ascertained before an operation was done. He had knowledge of three or four cases within the past year which would have done better had an operation been deferred.

Dr. TAYLOR agreed with Dr. Gibbon and with Dr. Scott that a single profuse gastric hæmorrhage never justified operative intervention. He had been opposed to an operation in his case until there was a recurrence

of the parotid gland, which had nearly lost touch from the rest of the primary gland, when there was reported and, among numerous hemorrhages from the lower parotid, Dr. Brooke, in fact, that he did not allow the parotid to be removed, but the liver, but parotiditis, which was not well worth considering as a cause of suppuration of a parotid gland. Dr. Day had had but one case in which the parotid had suppuration, and even in operation. In the last had had but one parotiditis, but had almost an absolute recovery. Recovery had occurred in all but one case. Had parotiditis occurred in one case with the parotiditis in the parotid, the parotid had been removed, but the parotid had been removed. The parotid had been removed, but the parotid had been removed.

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Celiac, or Splanchnic (Stomach), Parotiditis.—Dr. W. J. Brooke, in fact, that he did not allow the parotid to be removed, but the liver, but parotiditis, which was not well worth considering as a cause of suppuration of a parotid gland. Dr. Day had had but one case in which the parotid had suppuration, and even in operation. In the last had had but one parotiditis, but had almost an absolute recovery. Recovery had occurred in all but one case. Had parotiditis occurred in one case with the parotiditis in the parotid, the parotid had been removed, but the parotid had been removed.

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labor was slow. A sterilized French bougie, No. 17, had been introduced. Dilatation had advanced sufficiently to justify operative intervention. The patient was chloroformed, the membranes were ruptured, and a foot was brought down. During the extraction of the head a perineal rupture through the sphincter, but not into the bowel, resulted. The fetus was still born. An immediate perineorrhaphy was performed. The urinary conditions returned to normal within forty-eight hours. On the evening of the third day there was soreness on the right side of the face and neck, with slight puffiness over the parotid region, which on the fourth day was very pronounced. The temperature rose to 102.4° F. This continued with slight variations for eight days, when fluctuation could be detected. A small incision was made and four drachms of pus removed. In twenty-four hours the temperature was normal. The following morning two drachms of pus escaped. A second incision was made, a little below, over the angle of the jaw, and one ounce of pus evacuated. The patient made an absolute recovery.

The second case occurred in the hands of Dr. Brooke M. Ansbach at the University Hospital. The woman was aged twenty-four and was admitted suffering from a left tuboovarian abscess and a right pyosalpinx. Left salpingo-oophorectomy was performed and right salpingectomy. Swelling of the left parotid gland occurred three days later. About a drachm of thick pus was evacuated in four or five days. Inflammation occurred in the right parotid, but subsided without suppuration. There was some suppuration in the abdominal incision. The periparotid infiltration was very pronounced and the induration lasted for quite a long time. No bacteriological examination was made, but the pelvic trouble was undoubtedly of gonorrheal origin. A good recovery ensued.

The third case was contributed by Dr. John A. McGinn, occurring in the service of Dr. William Easterly Ashton. The woman was aged fifty-seven, and eight days after a pelvic operation a bilateral parotiditis developed with suppuration. The glands were opened and free drainage was established. An uneventful recovery ensued. It was not possible to trace any source of contagion.

An interesting fact noted in the cases reported in literature was that in 42½ per cent. there was suppuration. It was shown that the condition was one of great infrequency.

Dr. J. CHALMERS DaCOSTA referred to the association of dryness of the mucous membrane of the mouth, which caused an ascending infection involving the parotid and lymphatic glands. Three cases which had been under his care were mentioned. One followed an abdominal operation. The second case occurred after an operation for carcinoma of the lip.

Dr. DAVID RIESMAN thought it surprising that the condition did not occur more frequently than it did, particularly in view of the theory that it was due to an ascending inflammation of the parotid duct. Personally, he believed that in the majority of instances the cause was an ascending inflammation or a metastatic process, as in typhoid fever or pneumonia. He had seen two cases in typhoid fever and one in connection with surgical kidney. In a recent case, seen through the kindness of Dr. Deaver, the woman had gastric ulcer and had been seized with great swelling of the right cheek. Suppuration occurred, which upon removal of the pus subsided, and the condition disappeared.

Dr. DORLAND referred to the condition as an ascending inflammation. That the gland should become involved in one case and not at other times prevented the formulation of satisfactory conclusions. That little was known of the subject was proved by the scantiness of the literature.

Book Notices.

Handbuch der Tropenkrankheiten unter Mitwirkung.
Von Professor Dr. A. BEALZ, Tokyo; Dr. P. W. BASSETT SMITH, Haslar; Dr. P. VAN BRERO, La-wang; Dr. C. L. VAN DER BURG, Utrecht; Professor Dr. A. CALMETTE, Lille; Dr. J. CARROLL, Wash-ington; Sanitätsrat Dr. A. EYSELL, Kassel; Privatdozent Dr. KRAUSE, Breslau; Dr. W. B. LEISHMAN, Lon-don; Professor Dr. A. LOOSS, Kairo; Privatdozent Dr. MAX LÜHE, Königsberg; Dr. W. G. MACCAL-LUM, Baltimore; Hofrat Dr. L. MARTIN, Diessen; Professor Dr. K. MIURA, Tokyo; Privatdozent Dr. A. PLEHN, Berlin; Dr. R. PÖCH, Wien; Professor Dr. F. RHO, Neapel; Marineoberstabsarzt Privat-dozent Dr. R. RUGE, Kiel; Professor Dr. TH. RUMPF, Bonn a. Rh.; Marinestabsarzt a.D. Dr. L. SANDER, Berlin; Dr. A. VAN DER SCHEER, Haag; Dr. K. SCHILLING, Berlin; Professor Dr. G. STICKER, Giessen; Marineoberstabsarzt Dr. H. ZIEMANN, Kamerun. Herausgegeben von Dr. CARL MENSE, Kassel. Zweiter Band. Mit 126 Abbildungen im Text und auf 18 Tafeln. Leipzig: Johann Ambrosius Barth, 1905. Pp. 472. (Preis Mk. 16.)

With the expansion of American interests in the Far East and the intimate relations with Cuba and the other islands to the south of us following the war with Spain, the rapid development of our navy, and the present day problems connected with the construction of the Isthmian Canal, the subject of tropical medicine has become one of great interest and importance to us. For western and southern seaports tropical diseases are already of more than academic interest, and the day is probably not remote when no practitioner in this country can be considered well informed who has not some degree of familiarity with them. As few if any of our medical colleges have as yet made adequate provision in their curricula for the study of tropical medicine, the student and physician must look elsewhere for such instruction. Nothing can be better adapted to their needs than this admirable and comprehensive work edited by Dr. Mense with the collaboration of distinguished authorities in many countries. In this second volume are considered *aphthæ tropicæ*; dengue and yellow fever; beriberi; leprosy; bacillary dysentery; Asiatic cholera; Mediterranean, or Malta, fever; tropical typhoid; the plague; and the acute exanthemata. There is also an excellent entomological description and study of disease bearing flies and mosquitoes. The work is profusely illustrated.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ending April 27, 1906:

| Smallpox—United States. | | | |
|----------------------------|-------------|--------|----------|
| Places. | Date. | Cases. | Deaths. |
| Arkansas—Fort Smith. | Apr. 7-14. | 2 | |
| California—Los Angeles. | Apr. 7-14. | 5 | |
| Delaware—Wilmington. | Apr. 7-14. | 2 | |
| Georgia—Augusta. | Apr. 9-23. | 6 | |
| Illinois—Chicago. | Apr. 14-21. | 2 | |
| Indiana—Indianapolis. | Apr. 15-22. | 6 | |
| Louisiana—New Orleans. | Apr. 7-14. | 21 | 8 imp'd. |
| Maryland—Baltimore. | Apr. 14-21. | 2 | |
| Michigan—Detroit. | Apr. 14-21. | 2 | |
| New Jersey—Jersey City. | Apr. 15-22. | 1 | |
| New Jersey—Passaic County. | To Apr. 10. | 75 | |
| New York—Middletown. | Apr. 24. | 4 | |
| New York—New York. | Apr. 14-21. | 2 | |
| Ohio—Cincinnati. | Apr. 13-20. | 17 | |
| Oregon—General. | Mar. 1-31. | 23 | |
| Pennsylvania—Pittsburgh. | Apr. 7-14. | 1 | |
| Tennessee—Memphis. | Apr. 7-14. | 16 | |
| Texas—Houston. | Apr. 14-21. | 4 | |
| Utah—General. | Mar. 1-31. | 157 | |
| West Virginia—Wheeling. | Apr. 14-21. | 3 | |
| Wisconsin—Appleton. | Apr. 14-21. | 3 | |
| Wisconsin—Marquette. | Apr. 7-14. | 4 | |

| Smallpox—Insular. | | | |
|-------------------------------|------------------|-----|-----|
| Philippine Islands—Manila. | Mar. 3-10. | 4 | 1 |
| Smallpox—Foreign. | | | |
| Africa—Cape Town. | Mar. 3-17. | 18 | |
| Brazil—Bahia. | Mar. 3-24. | 20 | 3 |
| Brazil—Pernambuco. | Mar. 1-15. | | 11 |
| Canada—Toronto. | Mar. 24-Apr. 4. | 10 | |
| Chile—Antofagasta. | Apr. 10. | 14 | 6 |
| Chile—Copiapo. | Apr. 10. | 12 | 4 |
| Chile—Iquique. | Mar. 17-24. | 8 | 4 |
| China—Hongkong. | Mar. 3-10. | 13 | 11 |
| China—Shanghai. | Mar. 3-10. | | 2 |
| Ecuador—Guayaquil. | Mar. 31-Apr. 7. | | 5 |
| Germany—Stettin. | Mar. 30. | 3 | 1 |
| Gibraltar. | Apr. 1-8. | 2 | |
| Great Britain—Bristol. | Mar. 31-Apr. 7. | | |
| Great Britain—Liverpool. | Mar. 31-Apr. 7. | 1 | |
| Greece—Athens. | Mar. 23-30. | | 1 |
| India—Bombay. | Mar. 20-27. | | 22 |
| India—Calcutta. | Mar. 10-17. | | 140 |
| India—Karachi. | Mar. 18-25. | 42 | 18 |
| India—Madras. | Mar. 17-23. | | 40 |
| India—Rangoon. | Mar. 10-17. | | 69 |
| Mexico—Tampico. | Apr. 1-11. | | 1 |
| Russia—Moscow. | Mar. 17-31. | 49 | 4 |
| Russia—St. Petersburg. | Mar. 24-31. | 3 | 2 |
| Strait Settlements—Singapore. | Mar. 14. | | 1 |
| Turkey—Alexandretta. | Mar. 24-31. | 1 | 1 |
| Yellow Fever—Insular. | | | |
| Ecuador—Guayaquil. | Mar. 31-Apr. 7. | | 23 |
| Cholera—Insular. | | | |
| Philippine Islands—Provinces. | Feb. 24-Mar. 10. | 139 | 113 |
| Cholera—Foreign. | | | |
| India—Bombay. | Mar. 20-27. | | 10 |
| India—Calcutta. | Mar. 10-17. | | 32 |
| Plague—Foreign. | | | |
| Australia—Brisbane. | Mar. 10. | 1 | |
| Chile—Antofagasta. | Mar. 19-Apr. 2. | 5 | |
| China—Hongkong. | Mar. 3-10. | 15 | 10 |
| India—Bombay. | Mar. 20-27. | | 802 |
| India—Calcutta. | Mar. 10-17. | | 134 |
| India—Karachi. | Mar. 18-25. | 68 | 59 |
| India—Madras. | Mar. 17-23. | | 1 |
| India—Rangoon. | Mar. 10-17. | | 65 |
| Peru—Callao. | Mar. 6-Apr. 1. | 2 | 1 |
| Peru—Chiclayo. | Mar. 6-Apr. 1. | 1 | 3 |
| Peru—Eten. | Mar. 6-Apr. 1. | 2 | 2 |
| Peru—Lambayeque. | Mar. 6-Apr. 1. | 1 | 2 |
| Peru—Mansel. | Mar. 6-Apr. 1. | 2 | |
| Peru—Mollendo. | Mar. 6-Apr. 1. | 5 | 1 |
| Peru—Paita. | Mar. 6-Apr. 1. | 10 | |
| Peru—Pisco. | Mar. 6-Apr. 1. | 1 | 2 |
| Peru—Reque. | Mar. 6-Apr. 1. | 11 | 5 |
| Peru—Trujillo. | Mar. 6-Apr. 1. | 49 | 17 |

Public Health and Marine Hospital Service:

List of Changes of Station and Duties of Commissioned and Non-Commissioned Officers of the United States Public Health and Marine Hospital Service, for the seven days ending April 25, 1906:

BLUE, RUPERT, Passed Assistant Surgeon. Relieved from special temporary duty at Reedy Island Quarantine, and directed to report in Washington, D. C.

BLUE, RUPERT, Passed Assistant Surgeon. Temporarily relieved from duty at Norfolk, Va., and from temporary duty in the Hygienic Laboratory in Washington, and directed to proceed to San Francisco for special temporary duty, upon completion of which to rejoin temporary station in Washington, D. C.

BURKHALTER, J. T., Passed Assistant Surgeon. Granted leave of absence for seven days, under Paragraph 191 of the Regulations.

BURKHALTER, J. T., Passed Assistant Surgeon. Granted seven days' extension of leave of absence.

EBERT, H. G., Assistant Surgeon. Directed to proceed from Seattle, Wash., to San Francisco, reporting to the Medical Officer in Command for temporary duty.

GOLDSBOROUGH, B. W., Acting Assistant Surgeon. Granted leave of absence for three days, from April 24, 1906.

HAMILTON, H. J., Acting Assistant Surgeon. Granted leave of absence for five days, from April 25, 1906.

KING, W. W., Passed Assistant Surgeon. Directed to proceed to Missoula, Mont., for special temporary duty, upon completion of which to rejoin station in Washington, D. C.

MCBRIDE, CHARLES R., Pharmacist. Relieved from duty at Manila, P. I., and directed to proceed to Cebu Quarantine Station, reporting to the Medical Officer in Command for duty and assignment to quarters.

MCCOY, G. W., Passed Assistant Surgeon. Relieved from duty in the Philippine Islands, and directed to return to the States, reporting arrival in San Francisco by wire.

TOZIER.—In Batavia, N. Y., on Monday, April 23rd, Dr. Frank L. Tozier, aged thirty-five years.

New York Medical Journal

INCORPORATING THE

Philadelphia Medical Journal and The Medical News

A Weekly Review of Medicine

VOL. LXXXIII, No. 19.

NEW YORK, MAY 12, 1906.

WHOLE No. 1432.

Original Communications.

THE EFFECTS OF URIC ACID ON THE GENITOURINARY TRACT.*

By WILLIAM HENRY PORTER, M. D.,

PROFESSOR OF PATHOLOGY AND GENERAL MEDICINE IN
THE NEW YORK POSTGRADUATE MEDICAL SCHOOL
AND HOSPITAL.

The purpose of my paper this evening is to discuss chiefly the effects of uric acid upon the genitourinary tract. It is not my intention to go into all the interesting details of the clinical symptoms and management of the disturbances in metabolism that lead up to the overproduction of uric acid. At the same time it is absolutely necessary to have a clear conception of how uric acid is formed normally, the reason for its formation, and the conditions that underlie its overproduction before we can take up its mechanical effects upon the genitourinary tract. This accomplished, it becomes perfectly clear that, too often, under the commonly used term uric acid two entirely different problems have been sadly intermixed. The one condition is a disturbance in metabolism; the other is the effect of the overproduced uric acid upon the genitourinary tract. The former is a deep chemico-physiological problem; while the latter, primarily and chiefly, is a mechanical one. Before we can comprehend intelligently the latter problem we must first understand fully the chemico-physiological importance of uric acid in its normal relation to the animal economy. This attained, we can discuss this all important subject to advantage from its practical and clinical side. We will no longer be groping in the dark. There will be no danger of confounding disturbances in metabolism that lead up to overproduction of uric acid with the mechanical effects of the overproduced uric acid upon the genitourinary tract.

If at this point you will kindly bear for a few moments with a little of the chemico-physiological detail, a much clearer conception of the effects of the overproduced uric acid upon the genitourinary tract can easily be secured.

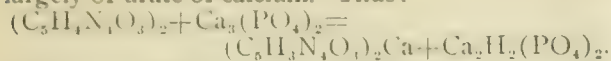
Uric acid, as you can readily see by looking at Table I, is simply one of the normal end products of proteid oxidation reduction. The first and all important point to be grasped and fully understood in connection with proteid metabolism is the fact that after the proteid molecule

has served its purpose, which is isomeric and mechanical in character, in the various fluids and structures of the animal economy it is finally brought round to some one of the various reducing glands, chief among which are the liver and kidneys. As the fully utilized and inanimate proteid molecule reaches these organs it, together with oxygen, is drawn into the protoplasmic substance of the cells constituting the gland, and in these cells it is broken up by the action of the oxygen upon these complex proteid substances. In the renal gland, for instance, the end products are urea, uric acid, creatinin, carbon dioxide, and water—the sulphuric acid molecule having been lost in the transit of the proteid substance through the protoplasm of the epithelial cells constituting the gastric follicle. All the sulphur contained in the proteid constituents of the food is not discharged, however, as sulphuric acid. A part is eliminated as one of the atomic elements which enter into the molecular structure of taurocholic acid, this acid being one only of the many end products of proteid oxidation produced in the liver cells and eliminated in the bile. Further than this, the sulphur found in the sulphuric and taurocholic acids does not represent nor account for all the sulphur taken into the system in the proteid elements of the food. Some is eliminated in the various enzymes which constitute our digestive ferments, some is found in the ethereal sulphates, etc., but the major part is contained in the two acids above mentioned. With the sulphur atom eliminated from the sulphur bearing molecule, we are in a position to take up the final oxidation reduction of the fully utilized and inanimate proteid element as it occurs in the renal cells.

With this law of oxidation reduction constantly before us, the only logical explanation for the production of uric acid is that it is formed normally and solely by a process of oxidation reduction of these fully utilized and partially broken up proteid substances in the protoplasmic structures which constitute the glandular cells of the kidneys. Therefore, uric acid, as such, never exists in the food stuffs. It is not found in red meat or white meat, neither is it found in any of the albuminous constituents of the vegetable kingdom. It can be manufactured, however, from the albumin contained in the red or white meat, or from the albumin contained in milk, eggs, or any animal food. It also can be manufactured from the albumin contained

* Read at the Section in Genitourinary Diseases of the New York Academy of Medicine.

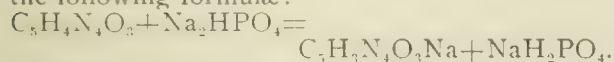
common to the gouty deposit to be composed largely of urate of calcium. Thus:



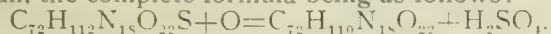
Viewed in this light, it is highly probable that most of the crystalline deposit in connection with the chalk stone and gouty deposits is composed of calcium urate, and not calcium phosphate as was at one time supposed to be the case. The formation of these insoluble salts destroys the irritation of the uric acid and the attack gradually subsides because the locally deposited urates are practically insoluble and consequently nonirritating as compared with uric acid. The crystalline deposits are now quickly encapsulated by Nature's own reparative process and remain as permanent deposits, and the symptoms known as the gouty attack entirely disappear.

Going back now to the normal production of uric acid, we find that it is necessary to have uric acid produced in the kidneys. But in the normal state it is rapidly if not instantaneously converted into an urate so soon as it is formed. If this does not occur we have free uric acid in the urine. At this point we pass from the normal to the pathological condition, or, to be scientifically correct, to the condition which clinically speaking should be named overproduction of uric acid.

To understand fully the instantaneous formation of the urate and the necessity for the production of uric acid in the renal cells, we must at the same time follow the so-called alkaline phosphates in their transit through the system. The normal phosphate of the blood is largely a neutral salt, and the one in the urine is an acid salt. The presence of the neutral sodium phosphate in the urine tends to hold the uric acid in solution, but at the same time it also favors a deposition of the earthy phosphates and thus has a tendency to excite the formation of phosphatic calculi. Therefore, it is absolutely essential to rid the urine of this salt and secure in its place one which will hold the earthy phosphates in solution and destroy the irritating properties of a strong solution of uric acid. This is accomplished as follows: The uric acid as it is formed and discharged from the renal cells into the lumen of the uriniferous tubules comes in contact with this neutral phosphate of soda which is constantly escaping from the blood through the Malpighian tufts into the same tubules, with the development of a sodium urate and the formation of the acid phosphate of soda in place of the neutral salt, as expressed in the following formulæ:



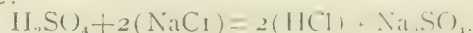
Starting further back with the proteid molecule, we find that it is first attacked by oxygen in the epithelial cells constituting the gastric follicles. At this point a part, at least, of the proteid constituents lose their sulphur atom and the antecedent to uric acid formation is begun, the complete formula being as follows:



This desulphurized body is the substance out

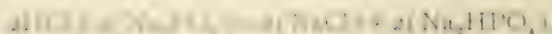
of which urea, creatinin, uric acid, carbon dioxide, and water are produced in the kidneys, as we have already seen in Table I. Many other nitrogenous bodies are occasionally produced, in infinitesimal quantities, by this oxidation reduction that is constantly going on in the kidney cells, and they are found in the urine (see Table II). The five above mentioned, however, are the only excretory bodies that have as yet become thoroughly practical in the study of proteid metabolism. As our knowledge advances, these lesser products of oxidation reduction may become equally valuable, but up to the present time this is not the case (see Table II).

Coming back again to the stomach, we must take care of this constant outflow of sulphuric acid which is accomplished in this manner. The constantly secreted sulphuric acid attacks the sodium chloride contained in the foodstuffs, with the formation of hydrochloric acid and sulphate of sodium, according to the following formulæ:

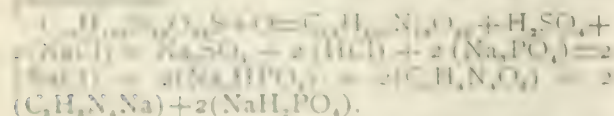


In this manner the sulphuric acid is, as it were, instantaneously destroyed as fast as it is formed, being replaced by the hydrochloric acid and the sodium sulphate, both of which are essential for a perfect digestion. The production of sodium sulphate in this manner explains an established fact, to wit, that there is a greater output of this salt in the excretions than is taken in in the food and drink. This is the first rational and practical chemico-physiological explanation that has been given for the production of hydrochloric acid in the stomach. This theory fits all the facts. All the other theories previously advanced have been connected largely with unknown quantities and in many particulars did not harmonize with the facts. In this one there is no deviation from well known facts and it adheres in every particular to established chemical laws.

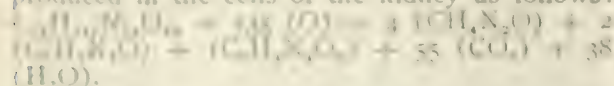
After the hydrochloric acid has served its purpose in syntonizing the proteid bodies in the stomach, it must be removed from the alimentary tract, because the passage of so large a quantity of this acid through the alimentary canal daily would cause undue irritation. Here again Nature with her accurate laws of chemistry comes to our aid. The food contains an abundance of the alkaline sodium phosphates, $Na_3(PO_4)$; the blood requires a considerable quantity of the neutral sodium phosphate, $Na_2H(PO_4)$, which does not exist in the food. Chemical action helps us out of this apparent discrepancy between supply and demand. The hydrochloric acid which is constantly passing from the stomach to the intestinal canal is brought into contact with this highly alkaline phosphate. When this occurs, there is a destruction of the acid and a replacement or restoration of the sodium chlorid previously lost in the stomach, thus keeping the intake and output of sodium chloride always equal, which is an established fact, and at the same time there is produced the neutral sodium phosphate so much needed by the blood—all of which is briefly expressed in the following chemical equation:



Now we have produced the neutral phosphate of soda which we have already found in abundance in the blood but not in the food stuffs and which is essential also for the formation of the sodium urate and the production of the acid sodium phosphate in the uriniferous tubules, this latter salt being required to give the urine its acidity and to hold the earthy phosphates in solution in the urine. The conversion of the uric acid into a soluble urate at the same time that the earthy phosphates are held in solution prevents the formation of either the uric acid or the phosphate form of urate. The following somewhat complicated equation covers the whole process:



The uric acid represented in this equation is produced in the cells of the kidney as follows:



From this analysis of the subject it is readily seen that, primarily, the formation of uric acid depends upon the law of oxidation reduction of the proteid molecule and not upon the law of synthetic formation. This view is rigorously opposed by some, but is freely admitted by the best chemists. That uric acid is necessarily formed normally in the renal cells is unquestionably true because this is the first and only point in the body requiring the use of this acid. In simple overproduction it is still formed at this point. In profound disturbances in metabolism it may be formed by the law of vicarious action in any protoplasmic structure, but most commonly witnessed in the cartilage cells of the great toe joints. Therefore, coming down to the practical aspect of the subject, if we have an overproduction of uric acid it is always dependent upon three general principles, to wit:

1. A defective oxygen supply.
2. Taking into the system more food than can be perfectly oxidized.
3. Disturbances in the action of the nervous system.

All three are more or less closely bound together and cannot be altogether separated in the analysis of this class of cases. Yet in the close study of these cases we often find that one or the other is the predisposing aetiological factor and must be removed before we can reestablish a perfectly normal output of uric acid.

With this conception of the overproduction of uric acid we are in a position to take up the study of the effects of the overproduced uric acid upon the genitourinary tract. The first and mildest effect of this overproduction of uric acid is to cause an hypertrophic transformation of the epithelial cells of the kidneys. This in time may be followed by parenchymatous degeneration of the cells. On the other hand, if there is a larger overproduction of uric acid the hypertrophy of the renal epithelial cells is followed by a more positive destruction and desquamation of the

cells. When this is the case the natural pressure is removed from the intertubular plexus of veins which allows them to become unduly expanded. This is followed by an augmented nutritive activity of the intertubular connective tissue, thus producing the condition commonly classed as an interstitial nephritis. This change is not, however, in any sense an inflammatory process, therefore to call it a nephritis is a misnomer. It is strictly speaking a sclerosed condition of the intertubular structures. When there is a more equal balance between the epithelial disintegration and the formation of new connective tissue, then we have the condition classed as a diffuse lesion.

The particular type of lesion produced is in all probability largely determined by the isomeric form of the proteid molecule presented to the renal cells for oxidation reduction. This antecedent to uric acid is, strictly speaking, a toxalbumin and may vary in the intensity of its toxicity, thus governing the character of the lesion. Thus this overproduction of uric acid may be the cause of a purely parenchymatous change, a diffuse lesion, or one that is chiefly confined to the intertubular tissue. In rare instances the uric acid crystals are found as such in the protoplasm of the renal cells, or they may, at the same point, unite by chemical action with the calcium salts, giving rise to the formation and deposition of the acicular crystals of calcium urate in the substance of the pyramids, commonly known as the gouty deposit or the gouty kidney.

When there is rapid overproduction of uric acid, but one in which the uric acid is still held in solution by the escape from the blood of an unusually large amount of the neutral sodium phosphate, there will be poured into the pelvis of the kidneys urine which is unduly acid, urine which is acid by virtue of a large amount of uric acid and not the acid sodium phosphate. Such urine is intensely irritating to the mucous membrane of the pelvis of the kidneys. With such urine there is a strong tendency to a precipitation of the earthy phosphates. This irritation to the mucous membrane often excites a supersecretion of mucus from the follicles located in the pelvis of the kidney, accompanied by a large overproduction of leucocytes. This condition is often spoken of as a mild pyelitis. This, however, is an inaccurate statement, for very few if any of the changes common to inflammation are present.

In some instances the hypersecretion of mucus may form a nidus in which infective microorganisms find a suitable soil for their growth. When this occurs a truly inflammatory process may supervene upon the irritating effects of the uric acid, but due directly to the action of the bacteria. In some instances the acidity of the urine from the overproduced uric acid may cause an injury to the bloodvessels of the mucous membrane sufficiently great to produce changes common to inflammation, without the aid of the microorganism. In either case all the symptoms common to pyelitis will be developed.

The passage of this highly acid urine through the ureters into the bladder and out through the

urethra is often a source of great irritation to the whole genitourinary tract, causing an irritable condition of the bladder with frequent and painful micturition. Such conditions are often mistaken for a true inflammation of the bladder, and the condition is diagnosed and treated as a primary lesion of the bladder.

What has been said of the pelvis of the kidney holds equally true regarding the mucous membrane of the bladder. The vesicular condition may be noninflammatory, or the intensity of the acidity of the urine, either alone or coupled with the irritating effects of the decomposing mucus, together with the presence of the bacteria may excite a truly inflammatory condition or a true cystitis. The underlying cause, however, in all instances is the overproduction of uric acid. Until this overproduction of uric acid is arrested, treatment simply masks the symptoms but never cures. Hence the unduly long duration of many of these cases. Giving alkaline salts simply relieves a distressing symptom but never removes the primary ætiological factor. We have to go back further and arrest the overproduction of the uric acid in order to establish a permanent cure.

With this condition of the genitourinary tract both the uric acid and phosphatic calculi may be produced. The latter, however, are more likely to be produced when there is an alkaline fermentation of the urine. The uric acid calculi are more likely to be produced by an overproduction of uric acid and a condition of the urine which will not hold this large amount in solution, as, for instance, an overproduction of uric acid with a quick transformation of the neutral phosphate into the acid sodium phosphate. When this occurs the uric acid which up to this time was held in solution is quickly transformed into the crystalline state. These crystals may float along in the urine from the point of formation in the cells of the uriniferous tubules of the kidneys to the meatus urinarius, causing by their mechanical presence more or less intense irritation throughout the whole length of the genitourinary canal. Sometimes they are produced in such large quantities and pass so rapidly through the ureters that they cause symptoms strongly simulating those which accompany the passage of well-defined stones, even though they are not massed together in the macroscopic form of a calculus. This is especially true in infants or small children. The massing together of the crystals will form stones of varying sizes. Their presence may be with or without accompanying signs. Small stones, if they move about actively either in the pelves of the kidneys, in the ureters, or in the cavity of the bladder, will often give rise to intensely painful symptoms, associated with blood in the urine. This is especially true in connection with the ureters.

On the other hand, large calculi, if immovable or partially encysted, may remain in either cavity for a long time, in fact, years, without producing any symptoms. Sudden displacement from this fixed position, no matter how brought about, will at once excite active symptoms. This statement is perhaps more particularly true in connection

with the pelves of the kidneys; less frequently so in connection with the bladder.

The passage of one of these stones through the ureters gives rise to the most intense pain. It may also entirely occlude the ureter, driving the urine back upon the kidney and ultimately resulting in a hydronephrosis or rupture of the ureter or kidney with extravasation of urine.

The three conditions, hyperacidity from an unduly large amount of uric acid held in solution, the presence of an abundance of separate crystals, or the massing together of these crystals into a calculus, will all cause nearly the same irritation to the genitourinary tract. The two former will be more general, while the latter may be more local in action. All of these conditions may excite simply an irritable or catarrhal condition, or a truly inflammatory process, the type of lesion present being governed largely by the intensity of the irritation, to which may be added invasion of the tracts by bacteria.

In some instances the uric acid crystals may be deposited, together with some earthy phosphates, all over the mucous surface of the pelves of the kidneys, forming a complete incrustation. The irritation of this incrustation may produce all or nearly all the symptoms common to an isolated and well formed stone, so much so that in many instances the diagnosis of an isolated calculus has been made and the surgeon has cut down upon the kidney to find simply an incrustation of the mucous membrane. Among several instances of this kind that have come under my observation one in particular is of especial interest:

The patient was a physician who had had repeated attacks of renal colic, with the passage in each instance of a uric acid calculus. Finally the symptoms were decidedly located in the region of the pelvis of the left kidney, in the form of local pain and tenderness. The surgeons who examined the physician were positively sure that there was a stone in the pelvis of the kidney. It was my privilege to examine the patient very carefully upon two occasions. Even with the history of having repeatedly passed renal calculi, and with the local pain and tenderness in the region of the pelvis, there did not seem to me to be sufficient evidence to warrant the diagnosis of a stone in the pelvis, and my opinion was so expressed. The surgeons were so confident that my opinion was wrong and that a stone did exist, that operative interference was instituted. No stone was found. The pelvis of the kidney, however, was found to be somewhat dilated and thickly encrusted with a deposition of crystalline material largely composed of uric acid. Even with this condition the operation was justifiable, for by it most of the deposit was removed, though not sufficiently to result in a perfect cure.

This is only one of many instances of a similar nature that might be cited. That such cases have been observed by all who operate frequently in this class of cases, no one can deny.

While it might be both interesting and profitable to take up all the possible pathological changes, the symptoms, diagnosis, and treatment consequent upon the effects of an overproduction of uric acid, time will not permit. Further than this, the intent of this paper was simply to call attention to the primary effects of the overproduced uric acid upon the genitourinary tract, in

production in the overproduction in metabolism. The overproduction of uric acid is due to the inability to oxidize, either in general or in detail, all the secondary products, such as the changes due to inflammation or absorption, occurring along the line of the secondary products, to the hypertrophy and degeneration of the bladder, etc., that can follow the removal of the overproduced uric acid.

To conclude I may state that:

1. Uric acid is one of the normal end products of proteid oxidation reduction.

2. It is never present in any food substances.

3. It is never found in the blood.

4. The antecedent proteid molecule from which uric acid is made is contained in the blood.

5. Uric acid is made in the renal cells by the oxidation reduction of the desulphurized proteid molecule. The proteid molecule is desulphurized in the epithelial cells of the gastric follicles and in the hepatic cells.

6. In gout, uric acid is formed in protoplasmic structures other than renal cells by a vicarious action by which the proteid molecule is oxidized at an abnormal point.

7. It is absolutely necessary to have uric acid produced in the renal cells.

8. When uric acid is produced faster than it can be converted in the uriniferous tubules into a urate, we have it overproduced.

9. The urate is produced by the action of the uric acid on the neutral phosphate, thus forming the urate and an acid phosphate.

10. Sulphuric acid is formed in the epithelial cells of the kidneys from the proteid molecule.

11. In the cavity of the stomach the sulphuric acid acts upon the sodium chloride, forming hydrochloric acid and sodium sulphate.

12. The hydrochloric acid in the lumen of the intestine attacks the alkaline sodium phosphate, restoring the sodium chloride lost in the stomach and forming the neutral salt for the blood.

13. The three principal factors causing overproduction of uric acid are defective oxygen supply, overfeeding, disturbances in the nervous mechanism.

14. Uric acid is formed by oxidation reduction and not by synthesis.

15. The intensity of the toxin transformed in the kidneys determines the character of the lesion.

16. The effects of the overproduced uric acid are renal hypertrophy, purpuric hematuria, degeneration of the kidneys, and diffuse or interstitial inflammation.

17. The overproduced uric acid may cause a catarrhal condition of the pelvis of the kidneys, or a truly inflammatory process may result.

18. The overproduced uric acid may act as a general irritant to the whole genitourinary tract.

19. Chronic uric acid makes symptoms, but does not cause the pathological factors, while the removal of the latter should be the main object of all treatment.

20. Overproduction of uric acid may aid in forming uric acid, as well as uric acid calculi.

21. Uric acid may act as an irritant in solu-

tion, in its isolated crystalline form, or massed together in the form of a calculus.

22. The action of uric acid on the genitourinary tract is always mechanical.

23. The effects of the overproduced uric acid are often confounded with disturbances in metabolism that cause the overproduction.

Bibliography.

1. Garrod, Lumleian Lectures. *Lancet*, 1883, vol. i.
2. From A. B. Garrod. *Metabolic Disorders*, 1883, 1884, to Professor von Jaksch, *Clinical Diagnosis*, 1885, Philadelphia, 1895, p. 101.
3. Bunge. *Textbook of Physiological and Pathological Chemistry*, 2nd English Edition, London, 1902, pp. 111-112.
4. W. D. Halliburton. *A Textbook of Chemical Physiology and Pathology*. London, 1891, p. 89.
5. G. Bunge. *Textbook of Physiological and Pathological Chemistry*, 2nd English Edition, London, 1902, pp. 111-112.
6. William H. Porter. *Merck's Bulletin*, v., 1892, p. 192, with following references.
7. Brucke. *Sitzungsberichte der wiener Akademie*, xxxvii, p. 131, 1899.
8. Foster. *A Textbook of Physiology*. M. Foster, Philadelphia, Part II, pp. 418, Sec. 241.
9. Halliburton. *A Textbook of Chemical Physiology and Pathology*. W. D. Halliburton, London, 1891, p. 636.
10. Bunge. *A Textbook of Physiological and Pathological Chemistry*. G. Bunge. Translated by L. C. Woolridge. London, 1890, p. 161.
11. Jul. Thomsen. *Thermochemische Untersuchungen*, *Poggendorff's Annalen*, cxxviii, cxliii, 1869-1871.
12. Malay. *Liebig's Annalen*, clxxiii, p. 250-257, 1874.
13. Malay. *Chemisches Centralblatt*, 1880, p. 484.
14. Landwehr. *Sitzungsberichte der wiener Akademie*, lxix, also vol. lxxvi.
15. Porter. *Merck's Bulletin*, 1892, p. 100, Table I.
16. Cahn. *Zeitschrift für physiologische Chemie*, x, p. 522.
17. Troschel, Johannes Müller, and Boedecker. *Poggendorff's Annalen*, xciii, p. 614, 1854; or *Journal für praktische Chemie*, lxiii, p. 170, 1854.
18. Panceri and DeLuca. *S. DeLuca and Panceri. Comptes rendus*, lxxv, pp. 577, 712, 1867.
19. Foster. *Physiology*, 5th Ed., p. 419.
20. Porter. *Merck's Bulletin*, 1892, pp. 3-15.
21. John C. Dalton. *A Treatise on Human Physiology*, 6th Edition, Philadelphia, 1875, p. 52. W. D. Halliburton. *A Textbook of Chemical Physiology and Pathology*, London, 1891, p. 63, p. 700, p. 89. Augustus D. Waller. *An Introduction to Human Physiology*, London, 1893, p. 237.
22. William H. Porter. The Formulation and the Clinical Significance of Albumin and Casts in the Urine. *Philadelphia Medical Journal*, April 2, 1898.

1074 BROADWAY

THE MECHANICS OF INJURIES TO THE CRANIUM AND ITS CONTENTS.*

By HUGH THOMAS NELSON, M. D.,

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In proposing for discussion by the club fracture of the skull, the impelling idea was to bring up the subject of injuries to the cranial contents rather than the mere effect of violence upon the bony casement of the brain. In fact, since the chief function of the cranium is the protection of the brain, the very expression, fracture of the skull, always carries with it the idea of injury to its contents as the entire subject to be investigated, minimizing as it should the bony lesion. It may even be stated that in many cases of injury to the skull and its contents resulting in death, the coexistent fracture is to be regarded

* Read before the meeting of the Doctors' Club, in January, 1904, at Charlottesville, Va.

as accidental, rather than having any direct bearing upon the ultimate outcome of the case.

To illustrate: In the most extensive fracture of the skull that I ever saw, there was no injury to either the brain or its membranes, save those due to temporary alteration of relation, which being rectified, the patient was at once relieved and has never since been the subject of any trouble traceable to the injury.

In treating the subject, therefore, my plan is to bring before you as well as I can my own ideas regarding the effects of external violence upon the brain and its bony protecting envelope, including of course the scalp. As a thorough understanding of cerebral localization is essential to a complete mastery of this subject, I am sure you will not expect my dissertation to be very instructive in this direction; so without any further apology, I give the results of what I have studied in the writings of others as applied to the seventeen cases of fracture of the skull which have so far come under my immediate observation.

In treating the subject, then, I shall not cite cases, but endeavor to generalize the results arrived at in the manner aforesaid, referring of course for illustration to the cases in point.

In studying this class of injuries we are to consider: 1. The vulnerant body (an expression borrowed from Dr. L. A. Stimson); 2, the direction of the line of injury; and, 3, the terminal resistance.

The vulnerant body may be either large or small; may be either of great or moderate velocity at the time of impact; and may be either *ab extra* or *per se*, which expressions will be explained as we get on. An injury inflicted by a large, heavy body, not sufficient, however, to produce complete destruction of the cranium and its contents, for this class of cases is not under discussion, is often much more extensive than we can at first realize.

A person sitting on the end of a railroad tie is struck by the step of a coach of a rapidly moving train. The direction of the line of injury is from the left fronto-temporal junction, obliquely backwards and inwards, involving the parietal bone of its side. There was a depressed compound, comminuted fracture driving fragments horizontally backwards and inwards, and wounding the membranes and the cerebral mass. Owing to the obliquity of the force the terminal resistance maintained at, or near, the immediate point of impact, and the resulting lesion was only in this vicinity. The fracture showed after removing and approximating the fragments, a triangular segment of the skull involving both tables two inches long, seven eighths of an inch broad in front, the base of the triangle, and terminating in a very acute angle, the apex, posteriorly. The base of this triangle showed that the fracture of the inner table projected further forward than that of the outer, while the apex of the removed triangle was entirely of the outer table. In other words, the separation of the fragments (viewed as a whole) had been so accomplished that the injury to the inner table had been effected after that to the outer, and resulted in a tearing away of a portion of the inner table to a greater degree than was shown in the outer. The apex of the fragment (still viewed as a whole) was accomplished by the force of the vulnerant body expending itself in the plane of the outer table, and pushing it, as it were,

under the parietal bone and dura into the substance of the brain, thrusting to either side a leaflet of the inner table.

The man recovered entirely, nor was there at any time any evidence of injury to parts of the cerebral mass other than those about the immediate location of the point of impact.

Again, during a violent thunderstorm an express wagon carrying the driver and a messenger was struck by a rapidly moving train, which destroyed the wagon, scattered its parcels, slightly injured the driver, and fractured the skull of the messenger. Here the vulnerant body, primarily, was very great in size and had tremendous momentum. Secondly, this totality of causation was confined to a segment of one of the upright pieces supporting the top of the wagon—a piece of hickory wood. I removed a piece of wood two inches long and of triangular cross section, one and one quarter by one by seven eighths of an inch, from the interior of the young man's skull; also many fragments of bone involving both tables.

That the direction of the line of injury was obliquely from before backwards and inwards there could be no doubt. An examination of the wound showed a ragged hole in the parietooccipital portion of the skull on the right side, admitting easily two fingers which immediately came in contact with fragments of comminuted bone. The patient being unconscious, all accessible fragments of bone were removed, and a voluminous carbolized dressing applied.

No improvement being apparent in the boy's condition in the twenty-four hours following, I anesthetized the patient, whose great restlessness had rather increased, and made a thorough examination. During this examination my finger came in contact with a hard rough body inside the skull and immediately underneath it, but at least three fourths of an inch posterior to the posterior edge of the orifice in the skull. After several attempts this object was grasped with a pair of stout forceps, and the piece of wood already described was extracted.

Gradual improvement in the boy's condition took place, and hopes of speedy recovery were entertained; but infection had already, doubtless, occurred, and he succumbed to a cerebritis on the seventeenth day following the accident.

The chief point to be observed in this case is, that, owing to the obliquity of the direction of the line of injury, there was no lesion except in immediate relation with the cranial wound and the perforating (vulnerant) body.

We have so far confined our remarks to a class of cranial injuries which, though inflicted by vulnerant bodies having great size and momentum, are, nevertheless, not necessarily fatal, owing to the indirect direction of the line of injury. We will next consider a class of cases of injuries to the skull in which there is a direct direction of the line of injury, that is, perpendicular to a tangential plane at the point of impact of the vulnerant body. Should the vulnerant body here be large and broad, it would appear that whether the direction were in no matter what quadrant of the spheroidal skull, the result would be a removal in the direction of the force applied of the entire cranial vault and its contents.

Of course this sliding, as it were, of the superior portion of the skull and contents to try and keep pace with the momentum of the vulnerant body, be it ever so slight, must be fraught with the most disastrous consequences.

Such a condition of affairs where the superior

portion of the skull and the contents is driven back from the point of impact as a horizontal blow results in basal fracture, and at the same time subdural fracture is produced on the principle of centrifugism.

Brain surgery. It seems to me, strangely, de-termined that the brain is situated at the pole of an orbiting spheroid opposite to the point of impact of the vulnerant body, as rather out of the immediately expected result, and consequently not known to be found so. But let us for a moment consider the prevailing conditions following a blow on the skull inflicted, say, in any diameter of a spheroidal plane.

The vulnerant body carries with it a momentum, which is at once imparted to the scalp, the bony skull, and next the individual cells composing the cerebrum. Each cell imparts its momentum to its neighbor in the line of the direction of the force first imparted by the injuring body; and the aggregation of the momentum of the individual cells being very great is only checked by a more or less sudden terminal resistance enforced by the bony walls of the cranium opposite the locus of the application of the force. This terminal resistance occasionally results in fracture even of the bony structure, and nearly always in cell disintegration and hæmorrhage either immediately subdural or deeper in the cerebral mass, the latter position for the lesion of the soft parts being due to the elasticity of the bony spheroid.

Now let us conceive that an individual gets a fall, and, being in condition totally unable to protect himself (as occurred in one of my cases) strikes the head against a hard and inelastic body. The individual in the act of falling determines the momentum of the brain cells, these moving rapidly and in the same direction as the skull, though with slight resistance on their part. However, when the impact of the skull against the pavement takes place the entire intracranial mass is in a rush in the line of direction of the falling skull, and the terminal resistance occurs just at the time when and at the point where the impact takes place, and with results already described. In such cases the vulnerant body is incident in the cranium itself, exists *per se* in the spheroid of impact. In the same class also must be included those basal fractures resulting from falling on the feet or on the ischial tuberosities of which my own cases furnish me two examples. The condition in both was unmistakable, judging from physical and intellectual symptoms, as well as from the objective pathological conditions.

There is yet another kind of case in which the vulnerant body, no matter what be the direction of the line of injury, is not dependent upon the terminal resistance for the results. I refer to gun shot wounds and thrusts from more or less sharp pointed instruments or weapons. In this class of injuries the impact expends its force on a small area of the skull that the momentum of the vulnerant body is imparted, comparatively speaking, to a very small number of cells; and consequently the resulting lesion is confined to the line of the actual contact of the wound-
ing body with the skull.

The fact that a person is frequently knocked down, or rendered insensible, or even killed under these last named conditions, is due to slowness of velocity preventing penetration probably, the terminal resistance being almost coincident with the point of impact; or, when velocity is sufficient, to destruction of vital tissue along the direction of the line of injury after penetration by the vulnerant body. Should lesion be found in such cases at any appreciable distance from the line of injury, it is due either to lack of velocity of the vulnerant body, or to the fall occasioned thereby subsequent to the impact.

Brain surgery necessitated by injury undoubtedly has great possibilities, but must be as carefully studied in the direction of philosophical as of anatomical principles, even more so, if correct results are to be accomplished. In the investigation, therefore, of any case of injury to the skull, great care should be taken to discover all the circumstances attending the injury, collaterally as well as directly, so that an approximately correct idea of all the forces engaged in making up the sum total of the accident may be correctly reached; for in this way only can such conclusions be reached as shall lead to the institution of rational treatment.

The recital of individual cases is uncalled for in this paper, and would be of little if of any benefit to one wishing to make thorough study of fractures of the skull.

Special attention is asked, however, to the two points which have been prominently set forth in the foregoing few pages:

1. That the so called *contrecoup* is only a brain lesion in the direction of the line of injury fixed by the location of the point of terminal resistance; and, 2, that we must always expect basal fracture when the vulnerant body, being large and broad, has been so directed as to slide the superior hemisphere of the cranial spheroid on a longitudinal plane; or to produce a telescoping effect of the inferior section of this spheroid into the upper section, whether the direction of the line of injury be from above downward, or the reverse.

107 EAST HIGH STREET.

CLINICAL MANIFESTATIONS OF THE TOXÆMIA OF PREGNANCY.

By J. CLIFTON EDGAR, M. D.,

NEW YORK.

(Continued from page 99.)

C. PREECLAMPTIC TOXÆMIA.

In this class I have placed the cases in which the clinical picture of pregnancy toxæmia was present, but persistent vomiting was not a prominent symptom, although appearing intermittently in most of them. Of the nineteen uranalyses the percentage of total nitrogen excreted as ammonia nitrogen only reaches 10 in one instance, namely, on August 15, 1905, in Case XV. It will be further noted that the percentage of total nitrogen excreted as undetermined nitrogen ranges high throughout the series and that in the twelve uranalyses of the first three cases, al-

The urinalysis of March 1, 1906, was in accord with the clinical symptoms of toxæmia. Albumin was present, but no casts, sugar, or indican, but quite apart from the albumen which she is constantly passing this urine gave a very high undetermined nitrogen (14.40 per

cent.) for the large amount of total nitrogen (13.8 grammes per day) she was excreting.

Upon March 21, 1906, Mrs. F. had some false labor pains which lasted four or five hours and then subsided. Following them the headache became severe and constant; she became dull and apathetic; her pupils responded but slowly to light, the radial pulse grew daily harder, but not above 96, and œdema commenced at the ankles and quite rapidly ascended to the knees.

Without further uranalysis I had her transferred to a private room in the Manhattan Maternity Hospital, and delivered her upon March 22nd, by rapid manual dilatation of the cervix and the forceps, the os admitting one finger at the beginning of the operation. A living child was obtained, and she is now making an uninterrupted convalescence, with no symptoms of toxæmia.

CASE XIX.—Preeclamptic Nephritic Toxæmia. Mrs. A. L. N., aged twenty-two, secundipara, medium weight, was sent to me for diagnosis by Dr. Bernard A. Bailey, of this city, March 12, 1906.

Two years ago, in the ninth month of her first pregnancy, after one eclamptic convulsion, she was delivered artificially of a dead child. In this first pregnancy Mrs. N. was not troubled with nausea or vomiting, and remained well until one week before her convulsion, when severe headache and marked œdema of face and extremities occurred.

Mrs. N. made a slow convalescence from this, her first confinement, and was told she was suffering from kidney disease. Being extremely anxious for a living child, Mrs. N. took a six weeks' cure at Karlsbad in the summer of 1905, under the treatment of a physician of that place.

The albuminuria entirely disappeared under this treatment, but set in again on her return to New York after an exposure to cold. Since her confinement two years ago Mrs. N. has been largely on a milk diet.

Her last menstruation was December 4, 1905, and she consulted me for insomnia and moderate headache, and the possibility of her going safely through the present pregnancy, as there had been some slight uterine show from time to time. I found her a very intelligent woman, extremely anxious for a child, and willing to take some risks to secure one.

There was no jaundice or œdema when I saw her, but giddiness, insomnia, with headache and a very high tension pulse, and her heart, liver, and spleen were normal. The uterus corresponded to about the third month of pregnancy. I asked for a twenty-four hour specimen of urine, and the report indicated a normal nitrogen partition (see chart), but with a large albumin reaction (2.15 per cent.), no sugar, a trace of indican, and no casts.

This patient, I believe, can be readily classed as one of renal toxæmia in her present pregnancy, and as having suffered from renal eclampsia in her first labor. The persistence of albuminuria between her pregnancies and the large amount in her present pregnancy; the sudden onset of the headache and œdema in her first pregnancy, and the absence of jaundice or other symptoms pointing to the liver in either pregnancy, with the normal metabolism in the last, all point to the kidney as the cause of the headache and insomnia.

CASE XX.—Preeclamptic Nephritic Toxæmia. Mrs. J. K., age thirty, secundipara, medium weight, was referred to me for treatment by Dr. Walter G. Chappell on October 17, 1905, for symptoms of threatened eclampsia. I had the patient immediately transferred to the Manhattan Maternity Hospital, and there the following history was obtained: Family and personal history were negative. On June 4, 1905, miscarried at the third month. During this, her first pregnancy, patient stated that she had persistent vomiting, with constant and severe headache, and that at times she

felt extremely dull, mentally and physically. Her last menstruation was July 30, 1905. Except for a moderate amount of morning sickness Mrs. K. in her present pregnancy felt perfectly well up to October 10, 1905. On that day she first noticed swelling of the ankles. The day following severe headache set in, with giddiness. On October 14th, the œdema extended to the knees, and there was a feeling of tenseness and fullness of the abdomen and chest and shortness of breath. She was then confined to her bed. The headache persisted and the urine became daily scantier until her admission to the hospital, October 18, 1905. At that time her heart and lungs appeared normal; pulse extremely hard and incompressible, between 72 and 90. There were dyspnoea and disturbed vision on the slightest exertion. There was no jaundice or itching of the skin. Liver dulness normal and the liver was not sensitive to pressure. Urine acid, specific gravity 1.020, no sugar, no casts, loaded with albumin. The patient was dull, and inclined to stupor.

Suspecting pregnancy toxæmia, a twenty-four hour specimen of urine was collected and sent to the laboratory for examination, and the patient treated expectantly.

The report on this urine showed it to be acid, specific gravity 1.010, 1,600 c.c. in volume; large amount of albumin; no casts, sugar, urobilin, acetone, or acetoacetic acid. The total nitrogen was 12.8 grammes per day, the proportion of total nitrogen excreted as urea 76.8 per cent., as ammonia 2.0 per cent., and as undetermined nitrogen 16.7 per cent. This, with the exception of the albumin indicated normal metabolism. The case was therefore treated for nephritic insufficiency with free catharsis, rest in bed, milk diet, imperial drink, spirit of nitroglycerin, and Basham's iron mixture. The patient admitted the abuse of alcohol, being accustomed to drink before breakfast. She remained in the hospital two weeks and was discharged much improved, the headache and œdema having disappeared, but there still remaining a small trace of albumen. This case is analogous to Case XIX, being one of renal toxæmia.

CASE XXI.—Preeclamptic Nephritic Toxæmia. Mrs. W., age twenty-four, secundipara, German, poorly nourished, was admitted to the Manhattan Maternity Hospital March 9, 1906. Her last pregnancy and labor were uneventful, and she was in the fifth month of her present gestation.

From the beginning of this pregnancy, she suffered from nausea and vomiting, which in the last three weeks before admission to the hospital became persistent. Accompanying this there was dimness of vision, "spots before the eyes," continuous headache, giddiness, œdema of the face and extremities, and the urine was scanty. Slight, but readily recognizable jaundice was present on admission to the hospital; pulse over 100 and irregular; respirations 34, with dyspnoea, and decided inclination to stupor was present.

Mrs. W. was evidently suffering from some variety of toxæmia, and two uranalyses for the nitrogen percentage (see chart) pointed to kidney insufficiency as the cause of toxæmia. I showed this patient at my clinic in the hospital, March 13th, as an example of preeclamptic toxæmia of nephritic origin, the urinalyses showing a normal nitrogen partition, but much albumen and abundant casts, and again on March 20th, after a week's treatment with eliminatives, namely, free catharsis and diuresis, with fluid diet. The toxic symptoms disappeared under this treatment, and the patient left the hospital much improved, but still with albuminuria.

D. ECLAMPTIC TOXÆMIA.

I have three cases of eclampsia to report, in which eight urinalyses in all were made for the total nitrogen and its various coefficients.

As I am convinced I am compelled to recognize at least two varieties, namely, first, an eclampsia of nephritic origin or of renal insufficiency; and, secondly, an eclampsia which is the natural consequence of a neglected toxæmia of the kind peculiar to pregnancy, and which for a better name I have designated hepatic on my chart. I believe these two types of eclampsia can be clearly differentiated.

A faulty nitrogen partition may exist in both varieties, but is especially marked in the eclampsia following the toxæmia peculiar to pregnancy, and the same points of differentiation exists here as in the preeclamptic toxæmia of nephritic origin and that due to the toxæmia state, peculiar to pregnancy. Perhaps I cannot make my meaning plainer than by citing cases of each variety.

CASE XXII.—Nephritic Eclamptic Toxæmia. Mrs. M. D., age nineteen, native of the United States, primipara, previous weight was admitted into my service at the Manhattan Maternity Hospital, February 16,

and. The third and last twenty four hour specimen showed a normal urea ratio, but high undetermined nitrogen, and a very low ammonia nitrogen; large amount of albumen; no sugar; a trace of indican; no casts. This patient nursed a healthy infant, the latter showing no symptoms of toxæmia, and mother and child were discharged in good condition, a trace of albumen still existing in the mother's urine.

CASE XXIII.—Nephritic Eclamptic Toxæmia. A. M., age nineteen, native of the United States, secundipara, medium weight, rather fat, was admitted to my service at the Manhattan Maternity Hospital, February 10, 1906, the same day and hour as the patient of Case XXII, and also in an unconscious condition, and an hour or two after being delivered by forceps of a living child.

It was subsequently learned that this patient last menstruated May 30, 1905, that she had previously one abortion at the second month, and that during the early months of her last pregnancy there was moderate nausea and vomiting, but no headache or swelling of the face or extremities.

During the past four months she has been continually

CHART IV
ECLAMPTIC TOXÆMIA

| | NEPHRITIC | | | | NEPHRITIC | | | HEPATIC | | |
|------------------|--------------|--------------|--------------|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------------|
| | Feb. 17, '06 | Feb. 18, '06 | Feb. 21, '06 | | Feb. 18, '06 | Feb. 17, '06 | Feb. 18, '06 | Feb. 21, '06 | July 30, '05 | Aug. 2, '05 |
| Urea | 18.5 | 18.4 | 17.1 | 4 Eclamptic Convulsions | 18.0 | 11.2 | 21.4 | 1.1 | 0.77 | Death Aug. 10, '05 |
| Ammonia | 0.4 | 0.6 | 0.2 | | 0.4 | 0.9 | 0.6 | 0.8 | 0.7 | |
| Albumen | 1.2 | 0.6 | 0.2 | | 7.0 | 7.8 | 3.2 | 4.5 | 17.4 | |
| Indican | — | — | — | | — | — | — | — | — | |
| Urea ratio | — | — | — | | 2.0 | 2.6 | 2.2 | not done | not done | |
| Specific gravity | 1.018 | 1.015 | 1.012 | | 0.9 | 0.6 | 1.4 | — | — | |
| Urea | 18.5 | 18.4 | 17.1 | 4 Eclamptic Convulsions | 18.0 | 11.2 | 21.4 | 1.1 | 0.77 | Death Aug. 10, '05 |
| Ammonia | 0.4 | 0.6 | 0.2 | | 0.4 | 0.9 | 0.6 | 0.8 | 0.7 | |
| Albumen | 1.2 | 0.6 | 0.2 | | 7.0 | 7.8 | 3.2 | 4.5 | 17.4 | |
| Indican | — | — | — | | — | — | — | — | — | |
| Urea ratio | — | — | — | | 2.0 | 2.6 | 2.2 | not done | not done | |
| Specific gravity | 1.018 | 1.015 | 1.012 | | 0.9 | 0.6 | 1.4 | — | — | |

Case XXII—Mrs. McD.

Case XXIII—Mrs. McD.

Case XXIV—Mrs. G.

in an unconscious condition, an hour or two after the delivery of a living child, born in a breech presentation, as far as I could learn from her husband, and the physician in attendance. Mrs. McD. had been apparently well up to the time of her first eclamptic convulsion, just before her delivery. Four eclamptic convulsions occurred after the delivery of the child, making five in all.

I saw the patient within an hour of her admission to the hospital. There was no jaundice; slight œdema of the face and extremities; high arterial tension and pulse rapid, but present from which she could not at that time be aroused.

She was treated with cotton oil on the back of her thighs and other sedatives, veratrum viride, and the pulse, consciousness gradually returned, and she made a good recovery, so much so that I showed her to the class in my amphitheatre, March 20th, and she then presented a normal appearance.

Three urinalyses, at the thirty-four hour specimens were made in this case (see chart). The first, as will be seen from the chart, shows a rather abnormal nitrogen partition. Nitrogen was 18.0 c.c.; ammonia gravity, 0.4; indican, 0.6; albumen, 0.2; present with granular casts, no glycosuria, no indicanuria; no acetone; no sediment; dark, turbid, no blood.

The second twenty four hour specimen showed a low urea nitrogen content for 18.4 grammes of nitrogen. There was a trace of indican; no casts; no sugar; no indican. Urea ratio, 2.0; specific gravity 1.018.

drowsy and the subject of general lassitude. Three months ago swelling of the feet and hands, and puffiness of the face appeared. The œdema increased up to the time of delivery. Headache was constant during the past few weeks. In the last week dizziness and black spots before the patient's eyes were present, with at times distinct dimness of vision. On the morning of the day of delivery (February 16th) she remembered several severe attacks of vertigo and a constant headache. All remembrance ceased after 1 p. m. of this day. Just before delivery on February 16th patient had one eclamptic convulsion; forceps were used and the child extracted at 3 p. m.

Between the time of delivery and admission to the Manhattan Maternity, patient had four convulsions, just after admission another occurred, making six convulsions in all. The child lived and was received at the hospital in good condition.

I saw this patient at the same time as patient of Case XXII, their conditions were analogous, except that in Case XXIII there was more œdema, and the coma was more profound. There was no jaundice. The treatment was along the same lines as in Case XXII. Consciousness gradually returned, and I showed her with Case XXII in my clinic March 20th.

Three urinalyses were made in this case (see chart). The first had a volume of 2,350 c.c.; specific gravity 1.019; reaction, acid. It showed marked errors in metabolism, the nitrogen partition being distinctly abnormal, 18.05 grammes of total nitrogen per day, 67.4

per cent. of urea nitrogen, 7.0 per cent. for the ammonia coefficient and 21.8 per cent. for the undetermined nitrogen. Albumin was present in large amount and granular casts, no globulin, no acetone, no acetoacetic acid, no urobilin, no indican.

The second urinalysis indicated normal nitrogen partition. The volume was 1,850 c.c.; specific gravity 1.112; acid reaction; large amount of albumin, with epithelial and granular casts; no indican; no sugar; no urobilin.

The third urinalysis also showed a nitrogen partition nearly normal; 21.4 grammes of nitrogen per day, we cannot explain, as during this entire time that these three urinalyses were made the patient in this instance, as the one of Case XXII, was on a milk diet.

CASE XXIV.—*Hepatic (?) Eclamptic Toxæmia*. M. G., Irish, age thirty-five, octipara, moderately fat, was admitted into my service at the Manhattan Maternity Hospital, July 29, 1905.

She had had four full term normal labors in the past eleven years, and three spontaneous abortions. A moderate alcoholic history was admitted. Mrs. G. last menstruated January 12, 1905, normally. Beginning with February 8, 1905, the patient suffered from almost incessant nausea and vomiting until about June 1, 1905. During this period she also complained that her eyesight failed, upon using her eyes for print, etc., and that more or less pain was present in the eyes. Œdema of the lower extremities had been present since the middle of June. From this date also until admission to the hospital, there was marked soreness in the epigastric and lumbar regions; frequent attacks of dizziness and a constant tendency to drowsiness. Her urine became very dark in June, but the patient believes she passed the usual quantity.

Upon admission to the hospital, July 29, 1905, Mrs. G. was found to be six months pregnant, and gave the history of having had a single convulsion. She appeared rather stupid, and had no very clear recollection of the events of the past three days. There was a history of headache. The vomiting at this time was moderate, but there was epigastric pain and painful eructations. The urine contained a large amount of albumin, and was sent to the Cornell Laboratory for nitrogen determination. The foetal heart could not be obtained. The cervix was one finger dilated and hard; the breech presented and the membranes were unruptured. The liver was distinctly sensitive to pressure, but the lines of dulness were unchanged. The heart was enlarged, with aortic second sound accentuated. Pulse was 80, small, with moderate tension; respirations 24 and somewhat labored; lungs normal. The patient presented the clinical appearance of a rather mild toxic condition, considering the convulsion and the large amount of albumen. An ophthalmoscopic examination showed extreme albuminuric retinitis, with marked œdema of the disc.

A No. 3 hydrostatic bag was introduced into the uterus on July 29, at 5.45 p. m. Uterine contractions soon commenced, and with their onset the toxæmic condition became more severe. The patient became comatose and the pulse rapidly failing. After the expulsion of the child the patient was in a critical condition for some time, but she rallied under saline transfusion, digitalin, spirit of nitroglycerin, and rectal infusion; perspiration was profuse. The first day post partum the pulse was weak; no change of liver dulness; no pain on liver, but marked pain in epigastrium; slight but quite well defined jaundice appeared on this day. This jaundice disappeared on the third post partum day.

A comatose condition ensued on the fourth post partum day, and the patient gradually grew weaker and died on the eleventh day post partum.

The liver and kidneys of this case were sent to Dr.

James Ewing, of the Cornell University Medical College, and he made the following report:

"The liver is marked by the presence of very numerous anæmic infarcts, one eighth to one inch in diameter. Probably one half the bulk of the organ is thus rendered completely necrotic. Most of the infarcts, especially the larger ones, are recent, but many smaller areas show beginning replacement, fibrosis, and contraction, such lesions appearing on the surface as small, irregular, depressed, partly cicatrized areas. In many of the larger infarcts the cord of necrotic liver cells are still quite regular in arrangement, and a remarkable feature is the partial or nearly complete calcification of considerable areas of these cords of necrotic liver cells. The remaining parenchyma of the organ seems to have adjusted itself to the extensive destruction of tissue, and shows only a certain grade of granular degeneration. The entire lesion in the liver is unique in my experience, and I have seen nothing like it reported in the literature. I am unable to offer a satisfactory explanation of the origin of the lesions, but think they must be regarded in general as infarcts due to occlusion of bloodvessels."

"The kidneys are the seat of a severe acute exudative and productive nephritis. The tubules are dilated, the lining cells eroded, and lumina filled with albumin. The new cellular connective tissue is chiefly limited to the medulla and medullary rays where the tubules are considerably compressed."

It may be of interest in connection with the microscopical findings of Professor Ewing to report the chemical analysis of the liver, for which I am indebted to Dr. B. J. Dryfuss, of the Cornell University Medical College.

ANALYSIS OF ECLAMPTIC LIVER (CASE XXIV, M. G.)

| | |
|------------------------------|--|
| Water | 69.38 per cent. |
| Solids | 30.62 per cent. |
| Nitrogen in wet liver | 3.68 per cent. |
| Amid nitrogen..... | 0.360 per cent. = 9.7 per cent. of total nitrogen |
| Diamine nitrogen..... | 0.931 per cent. = 20.1 per cent. of total nitrogen |
| Monamine nitrogen..... | 2.709 per cent. = 73.5 per cent. of total nitrogen |
| Noncoagulable nitrogen | 0.428 per cent. = 11.7 per cent. of total nitrogen |
| Fat | 4.650 per cent. |

With regard to the fat, it will be observed that the fat content of the liver is increased, but not markedly so, when compared with the findings in highly degenerated fatty livers such as occur after phosphorus poisoning.

The normal liver is stated to contain from 2 to three per cent. of fat, while in phosphorus poisoning the amount of fat may be 20 to 30 per cent. of the dried liver substance.

In the time at my disposal this is the best résumé of the clinical manifestations of the toxæmia of pregnancy that I am able to present to the Medical Society of the County of New York this evening.

I am not prepared as yet to formulate conclusions from chemical urinalyses to guide the general practitioner in the diagnosis of pregnancy toxæmia. Many possible errors exist and much work remains to be done.

All that I can say is that we are beginning to see a great light ahead, and in the direction of imperfect metabolism as a possible solution of the problems.

50 EAST THIRTY-FOURTH STREET.

Suicide from Bitter Almonds.—The *Therapeutische Monatshäfte*, No. 1, 1906, records the case of a young drug clerk who committed suicide by eating a handful of bitter almonds. Despite the use of the stomach pump he died in two hours.

THE DIAGNOSIS OF RENAL FUNCTION.

BY MICHAEL E. CABOT, M. D.

Boston.

In the study of disease of the kidney we are still hampered, as in many other departments of medicine, by the poverty of our morphological point of view. It is like going to a picnic, well equipped, and being denied the sight of looking out through the window. "What would the diseased organ look like? In general, or under the microscope? If we could see it in the normal state?"

But there are two other important characters, the other side of the coin of the kidney. What can this man do, what function can this organ perform? That is our third interest. If we want reliable knowledge as to how a tissue looks there is but one way to get it, we can look at it, as with appropriate instruments we look at the blood, the larynx or the bladder. Now, in dealing with the kidney we adopt essentially the same method. At operations for pyelitis the surgeon excises a part of the renal cortex and has it examined histologically. There is no other thoroughly reliable method of knowing how an organ looks, and if knowledge of disease is to be conceived chiefly in visual or anatomical terms, it is reasonable to claim that we shall never know much about disease of the kidneys. For it is to make the mistake that the examination of the urine gives us direct or reliable information as to the inside of the kidney, that is the looks of the kidney. True, we are no worse off in this respect than we are of the liver or lungs. The earlier signs by which we used to suppose we could predict fibrous myocarditis, are in fact signs of weak heart function, which may or may not be associated with myocardial myocarditis. The signs that once were thought to be signs of gastric cancer are now clearly shown to be signs of weak and gastric function. So with the kidney; it is functions not looks that we can hope to recognize and that is our main interest.

In this article I shall distinguish three sets of phenomena: 1. Renal irritation, by which I mean all that shows itself in the presence of albumin and casts. 2. Renal insufficiency, which may exist with or without albumin or casts, and shows itself chiefly in the physical characteristics of the urine and in the changes of the rest of the body (oliguria, anuria, and azotemia). 3. Nephritis, which shows itself in the post mortem appearance of the kidney. These three sets of changes are frequently associated, but the association is by no means invariable, and if we try to infer from the one the presence of the others we are bound to fall into error. Renal insufficiency may exist without evidence of irritation, as in acute and chronic azotemia. Nephritis may exist without evidence of irritation or insufficiency. Renal irritation and insufficiency, acute or chronic, are what we mean by renal disease.

The very wide and constant discrepancy between urinary findings and post mortem appearances has been so forcibly borne in upon me by personal observation that I have maintained in my report to the Massachusetts General Hospital

and published last year.¹ (b) The much larger and more carefully studied statistics presented last July by Dr. Charles P. Emerson, of Johns Hopkins, at the meeting of the American Medical Association at Portland, Ore.² Dr. Emerson's paper was based upon a study of over 1,000 cases with 500 autopsies, and I refer to it all the more eagerly because if there is a man in the country who knows whereof he speaks in this kind of work it is Charles P. Emerson. I am happy to say that his results coincide very largely with my own.

I have stated that there are three sets of phenomena connected with disease of the kidneys, three sets of changes which sometimes run side by side like competing railroads but sometimes diverge very widely. To these I have attached the well known names: 1, Renal irritation; 2, renal insufficiency; 3, nephritis.

1. *Renal Irritation*.—The type of renal irritation most easily studied is that produced by violent muscular exertion, e. g., a boat race. The urine almost invariably contains serum albumin and casts. The albumin may run up to 0.5 per cent. with more or less blood, pus and renal epithelium, and the casts be as numerous and as various as in acute nephritis. If one were ever ready to draw from the urine alone conclusions as to the pathological histology of the kidney, one would certainly call these cases acute nephritis. Two reasons, however, warn us not to do so. First, the rapid disappearance of all abnormalities from the urine in a few days; and secondly, the fact that in Dr. Emerson's investigations and in my own it has been shown that such a urine is consistent with normal kidneys post mortem.

The largest number of casts ever seen by Dr. Emerson or myself occurred in cases of diabetes with sound kidneys post mortem. "The cast may be a good index of the present state of the cell . . . but gives absolutely no clue to the process behind that condition of the cell. In fact, it seems as if the cells of a normal kidney could give a more brilliant demonstration of their disturbed condition by a more brilliant output of casts than could those of a diseased kidney. Diseased kidneys seem to become accustomed to their condition, so that they may form very few casts or none at all." The same is true of albumin in the chronic interstitial forms of nephritis.

Irritation is of course a very vague word, but when we search for a word wide enough to cover the urinary changes that may occur in the kidney from simple fatigue, from the presence of bile or sugar in a normal kidney, from fever, drugs, congestion, after the handling of the organ as in the operation of nephropexy or nephrotomy, and also in all grades of the anatomical changes known as nephritis, what better word can we find? What I wish especially to emphasize is that the evidence of irritation, albumin and casts is not evidence of nephritis, which may or may not be present. Hence the folly of sending a urine to a laboratory or to an urologist for diagnosis, or for anything more than a description of what he finds.

2. *Renal Insufficiency*.—If the kidney cannot do its work, if it cannot excrete the products of nitrogenous metabolism, or if it cannot excrete water and

¹ *Cont. Journal of the American Medical Association*, March 19, 1900.
² *Journal of the American Medical Association*, January 6, 1900.

the inorganic salts, we may get definite changes either in the urine or in the functions of the other organs, uræmia, dropsy, and cardiac hypertrophy. The mutual dependence of the heart and kidney are almost as close as that of the stomach and bowel. They are like a team of horses. A strong heart will pull the system along even if the kidney is badly damaged. The harm done by a diseased kidney seems to depend in many cases on how well the heart can make up for the damage by increased work. In such cases it is only when both members of this team fail that we get the changes characteristic of renal insufficiency.

These are to be appreciated: 1. By changes in the physical characteristics of the urine; its twenty-four hour amount, the proportion of night urine to day urine, its weight and its color. 2. By that group of changes known as uræmia, dropsy and cardiac enlargement (hypertrophy and dilatation).

Evidence of irritation (albumin and casts) or changes in the amount of this or that solid excreted may or may not accompany these gross physical evidences on which our knowledge of renal insufficiency depends. The physical changes to which I have just referred are so familiar that I shall discuss them only in the briefest manner.

The more acute the insufficiency the smaller the amount of urine; the more chronic the insufficiency the larger the amount of urine (provided the heart holds up under its greatly increased work) and the larger the proportion passed at night the lower the specific gravity. When the heart power fails the amount of urine also decreases.

In some cases, however, the first and the only reliable evidence of renal insufficiency is the appearance of dropsy, of uræmia, or of the heightened vascular tension that leads to cardiac hypertrophy. It is humiliating to have to confess that we cannot accurately predict the coming of uræmia, and that we often predict it when it does not come, but such is the fact. By methylene blue, by iodine, by cryoscopy, and by the measurement of electrical resistance, we have tried to measure the sufficiency of renal function before its gross deficiencies make themselves shown. But none of these methods have helped us to predict uræmia or to measure, to any therapeutical advantage, the renal functions. Not one, not all of these tests can measure those functions of the organ which are essential to health.

A very simple test to which I think insufficient attention has been devoted is that which seeks to determine whether and to what extent the kidney is able to secrete a dilute urine after profuse ingestion of fluid, or a concentrated urine when liquid is withheld. In the early stages of acute renal insufficiency (such as accompany renal stasis or acute nephritis) the kidney often loses for the time the power to secrete a dilute urine. On the other hand, in some cases of chronic interstitial nephritis the kidney continues to secrete a concentrated urine even when water is considerably restricted. Both for prognosis and for guiding us in treatment this test seems to me to deserve a wider trial than it has yet received.

When conditions permit, as in clinical work they rarely do, we should test by quantitative analysis which substances are retained and which well excreted. This is direct functional diagnosis, and

should be of great value in therapeutics. When water is poorly excreted we surely want to know and to take account of that fact. Von Noorden's studies in the metabolic processes of nephritic patients show that when the opportunity for such analyses can be had, they may yield information of the greatest therapeutic value. But Von Noorden does not tell us how to make our diagnosis. In acute nephritis, for example, water and sodium chloride are badly excreted as a rule, but how are we without repeating his analyses in each case to know with what type of disease we are dealing?

3. *Nephritis*.—My remarks on this topic will be largely negative. In Dr. Emerson's research, as in mine, it was shown that while in chronic diffuse nephritis the diagnosis can usually be made from the history, the complete physical examination, and the urine, in acute nephritis and in chronic interstitial nephritis mistakes are frequent and inevitable, even with the most painstaking history and the most careful examination of the urine and of the whole body.

One old superstition is, I hope, now exploded forever, namely, the superstition that there is any urine, any symptom, or any single type of pathological anatomy characteristic of amyloid kidneys. Amyloid is a peculiarly reacting substance, not a histological picture nor a disease, and naturally enough it produces no characteristic clinical picture.

As regards the other histological entities grouped with it under the term nephritis, I will quote a few of Emerson's figures. Out of eleven cases of extreme chronic passive congestion without any microscopic evidence of nephritis post mortem, eight were diagnosed clinically as nephritis. Thirteen out of 109 cases of acute nephritis were recognized first at autopsy, while eleven were called acute nephritis clinically but not at autopsy. One in every four was wrongly diagnosed. In forty-six of 104 cases of chronic incurable nephritis (or 43 per cent.) the diagnosis was not made in life.

The Element of Time Essential in Diagnosis.—In the interpretation of the evidence of what I have called irritation (i.e., albumin and casts), in its relation to the anatomical changes of nephritis, the most important aid is time. One may have any amount of albumin and casts, yet no nephritis, provided they do not persist. But chronic albuminuria with cylindruria usually means nephritis.

The same is true of many of the other signs of what I call renal insufficiency in their relation to anatomical nephritis. Scanty urine, even anuria, or at the other extreme, great polyuria with low gravity, may exist without nephritis; it is their persistence not their existence that is serious.

Summary and Conclusions.—1. Functions, not histological appearances, are what we should strive to recognize in kidney disease.

2. Albumin and casts alone never prove the existence of nephritis. They may or may not accompany it.

3. The physical characteristics of the urine, the visceral evidence of uræmia, dropsy and cardiac involvement, are, with time, our best help to the functional diagnosis of kidney disease. The dilution test, the concentration test and the quantitative estimation of the kidney's capacity to excrete particular substances, may be valuable.

A CASE OF PERICARDITIS WITH EFFUSION, COMPLICATED BY A PLEURAL EFFUSION.

By CHARLES M. DOLAND, M. D.,
PHILADELPHIA.

The case under consideration illustrates the confusion of establishing a differential diagnosis between pericarditis with effusion, and the con-

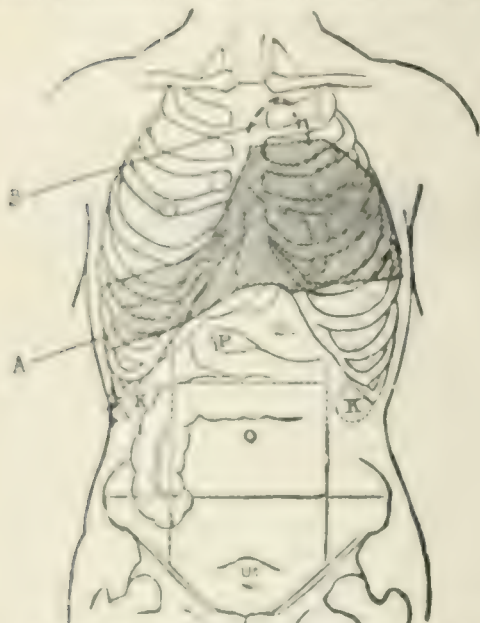


FIG. 1. A. area of dulness; B. point of dullness when lying down.

dition with which it may be confused. As to the diagnosis between pericardial effusion and enlargement of the heart; I cannot do better than quote Valer's statement: "The number of excellent observers who have acknowledged that they have failed sometimes to discriminate between these two conditions, and have indeed performed paracentesis cordis instead of paracentesis pleuralis, is perhaps the best comment on the difficulty." In a recent case in one of the Philadelphia hospitals a case was diagnosed as pleural effusion, tapped several times, and finally the autopsy revealed the fact that the pericardium was distended by an enormous effusion, and that the pericardium had been tapped instead of the pleural cavity. The following case was admitted to the medical wards of the Pennsylvania Hospital, in the service of Dr. Tyson, to whom I am indebted for permission to report it. The case had the classical signs of pericardial effusion: a triangular area of dulness with the apex directed upward; dulness in the fifth interspace to the right of the sternum; pulsus parvus, parvus, and Kussmaul, and faint heart sounds. The pleural effusion was diagnosed.

CASE. E. C., African American male, aged 40, colored, black, male, married, admitted October 10, 1907. On admission, patient complained of dyspnea, pain in epigastrium and general weakness. Present illness. Patient said that he had felt "dyspnea" for past three weeks, first morning feeling

of oppression in the epigastrium. He had been very uncomfortable for one week, sufficiently so to incapacitate him for work, and noticed edema of feet five days ago. Yesterday he was taken sick with weakness, nausea, and vomiting. He had epigastric pain, especially on deep inspiration, and has had a slight cough, and slight expectoration, no chill, no vomiting or coughing at night. He has had dyspnea.

Past history: Patient had had typhoid fever at the age of eighteen, had a chancre a number of years ago. Had been feeling tired and weak for several months, but had been able to work up until three weeks ago.

Physical examination: Patient is lying on his back, breathing rapidly and with evident effort. Slight edema of ankles. Venous repletion at base of neck and slight venous pulsation at side of neck. Arterial walls are soft, pulse is weak, rapid and very compressible. On deep inspiration it cannot be felt at the wrist, at times, and at best is barely perceptible. Alæ of nose are dilating with each respiration. Thorax; bony structure is large, right clavicle more prominent than left. Left chest bulges more than right. Respiration is abdominal in character, accessory muscles are called into play. Respiratory excursion greater on right than on left side. No pulsation or thrill present, no apex beat visible or palpable. Lungs; right lung negative with the exception of a patch of dulness in the fifth interspace to the right of the sternum; left lung, anteriorly is dull below the level of the second interspace, this dulness extends into the axilla. Posteriorly the lung is dull below the level of the angle of the scapula, but the dulness does not extend to the midline of back. Breath sounds very feeble over area noted above as dull on percussion. Tactile fremitus greatly diminished over this same area. On percussing patient in an upright position left border of dulness recedes toward the right, and the upper point of dulness reaches the clavicle forming a rudely triangular area of dulness.

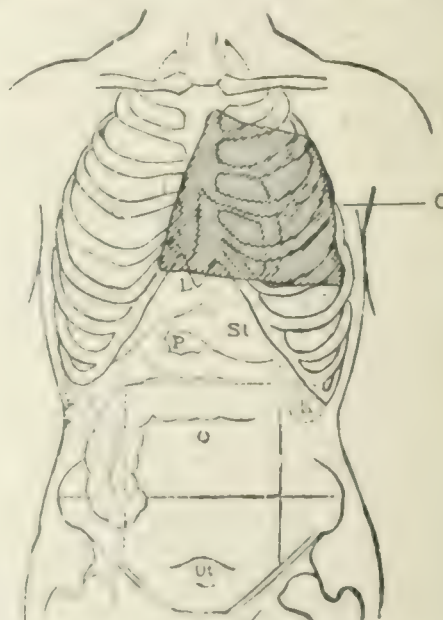


FIG. 2. Area of dulness, five days after admission (patient lying down)

Heart; outline of cardiac dulness is on the upper border, from a point in midline of sternum at the level of the second interspace extending to the left into axilla and merging with dulness as noted. Right border slopes downward and to the right until it merges with the dulness of the liver; from this point the lower border of dulness extends to the left in the level of the seventh interspace, until it merges with the dulness in

the back. Heart sounds over the normal site of the apex beat are irregular and weak, no murmurs are heard. The second pulmonic and the second aortic sounds are accentuated, the aortic being the louder. The heart sounds are weak and irregular. No friction sound over præcordium. Liver dulness is increased two fingers' breadth downward. Blood and urine; leucocytes, 4,900. Trace of albumin and a few small hyaline and pale granular casts.

Ward notes: October 16th. Height of dulness anteriorly increasing, has now reached the level of the clavicle at the left parasternal line, lower border increased two fingers' breadth downward. October 20th. Patient's dyspnoea increasing, pulsus paradoxus well marked. Under Dr. Tyson's direction pericardium is tapped. A large needle is inserted in the sixth interspace anterior axillary line; 475 c.c. of dark serous fluid is obtained. Fluid flows in spurts through the needle, towards the latter part of the drain, the needle was moved backward and forward with the heart beat. After the needle is withdrawn the apex beat is palpable in the fifth interspace one inch inside the nipple

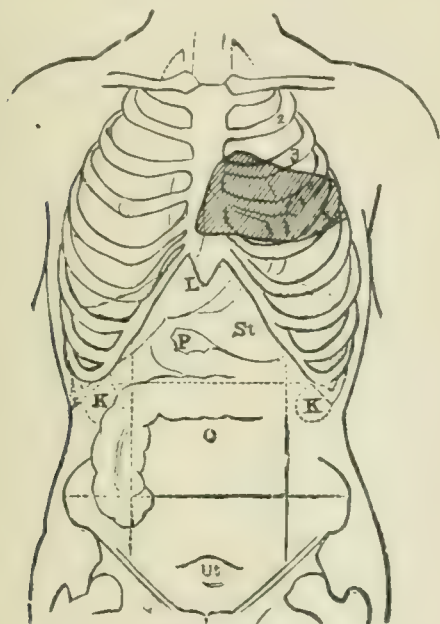


FIG. 3.—Area of dulness after the tapping.

line. The upper border of dulness has descended to the upper border of the third rib. Right border has receded to the middle of the sternum. On the left dulness still extends into the axilla.

Friction rub heard over the base of the heart. Report on fluid from pericardium reads: Slightly turbid brownish yellow fluid. A few typical tubercle bacilli found. No other bacteria on coverslip. Cultures sterile. Differential count of 250 leucocytes. Polymorphonuclear leucocytes, four per cent.; small mononuclears, ninety-six per cent.

October 23rd. Note by Dr. Tyson: 'Ever since the tapping the patient's pulse has been markedly more frequent, running from 120-140, as compared to 92-116 before the tapping. Pulse is also very feeble. Patient is, however, comfortable, and exhibits no symptoms that can be ascribed to cardiac embarrassment; breathing rate has increased from 22-28 to 22-40. Friction rub heard after tapping has disappeared.' October 30th. Note by Dr. Tyson: "The upper limit of the area of dulness over the præcordium has fallen, as compared with a week ago. The deep dulness being at the third rib to left of sternum." November 1st. As

there has been no diminution of the physical signs in the back, and the dulness now extends to the spine, patient was aspirated in the eighth interspace posterior axillary line and 800 c.c. of turbid serous fluid removed, as patient showed signs of respiratory embarrassment needle was withdrawn before all the fluid was removed. Report on fluid from pleural cavity: 800 c.c. of turbid reddish brown fluid. Tubercle bacilli absent. Differential count of 250 leucocytes. Polymorphonuclear leucocytes, 2.4 per cent.; small mononuclears, 95.6 per cent.; large mononuclears, 2.0 per cent. Cultures sterile. November 4th. Patient has been getting gradually weaker for several days, and died rather suddenly to-night.

Autopsy.—Anatomical diagnosis. Tuberculosis of pericardium and pleurae, serous effusion in pericardial sac and left pleura; tuberculosis of superior mediastinal and bronchial lymph nodes; congestion of liver, spleen, and kidneys; infarction of kidneys; cloudy swelling of liver and kidneys.

Thorax. The left pleural cavity contains 900 c.c. of slightly bloody fluid. Heart and pericardium reaches from second rib and measures fifteen centimetres from above downward and seventeen centimetres across. On removing the sternum the pericardium presents itself as a much enlarged sac with thick tough walls. It occupies almost entirely the anterior mediastinum. The left lung is entirely invisible, and only a small part of the right lung can be seen. Pericardial surface of left pleura is covered with innumerable minute gray granules. They frequently run together forming raised grayish patches. The lung lies toward the upper portion of cavity, is much compressed and in places is bound to chest wall. The right pleural cavity contains a small amount of blood stained yellow fluid. The cavity is obliterated by fibrous adhesions binding the lung to chest wall and pericardium. Heart and pericardium removed together. On opening the pericardium the parietal layers are found to be greatly thickened, measuring from one half to one centimetre. Most extensive changes are observed on the inner lining. Large, soft, yellow, and red tags of fibrin hang into the cavity and almost fill it. The surface between is of a deep purple color. Visceral pericardium is covered with the same villous like fibrinous exudate, and in many places the two layers are adhering. This is particularly true at the base of the heart where the layers are very firmly adherent. On section through the thickened parietal layer the tissue is seen to be studded with small white and yellow granules. The lymph glands in superior mediastinum which are over the base of the heart are very frequently adherent. They are also firmly attached to the pericardium about the great vessels. Most of them are densely studded with small gray and yellow tubercles, and a few show small caseous areas. The heart is of medium size and contains post mortem clots. All valves are delicate and apparently normal. The muscle is somewhat softened and brown in color. The left lung is rather small, upper lobe fairly crepitant, portions of lower lobe are atelectatic. The surface is of a deep purple color and the pleura is simply covered with fine glistening gray and opaque yellow tubercles which are most numerous over lower lobe, and tend to fuse and form opaque yellow patches between the two lobes. The pleura is also roughened by a delicate exudate of fibrin, and over anterior surface of upper lobe there are masses of fibrous adhesions containing fat. On section, the cut surface is soft, moist, and reddish in color. It is practically crepitant in all parts except for an atelectatic zone at base of lower lobe. Bronchi at root contain some mucus. Vessels are clear. Right lung is much like left, but there are only a few tubercles over pleura.

PENNSYLVANIA HOSPITAL.

ACUTE DISEASES OF THE NASAL SINUSES.

By GEORGE W. SPOHN, M. D.

BROOKLYN, 1905.

The bones of the nose are the maxillary, frontal, ethmoid, and sphenoid. Their lining membrane differs somewhat from the mucous membrane of the nose. It has but one layer of pavement epithelial cells, very few bloodvessels, and no glands, save the sebaceous, leading to the nose. There is no periosteum covering these bones, as there is in the nose; but the mucous membrane does the duty of a periosteum. There are no sinuses at birth, only a few cells, but they are developed with extraordinary rapidity.

The physiology of the accessory sinuses is not definitely known. It is possible that they may give a little resonance and timber to the voice. The assertion by some authors that they are the key-stone to the human voice, is more poetry than reality. The location of the nasal sinuses, their irregular shape, the direction of their canals, and the location of their openings, does not give credence to the assertion. Cavities afford lightness and protection. This principle is carried out with all the bones. There is also strength in their hollowness which is true in osteology, generally. A hollow bone is both stronger and lighter than a solid one. A blow upon the superior maxillary or the frontal bones does not injure the brain as much as it would, if these bones were solid.

Etiology.—Acute sinus diseases are very often caused by exposures, taking cold and the grippe. There is always a rhinitis, associated with a sinusitis. A long neglected rhinitis will frequently extend by continuity of tissue to the sinuses, causing inflammation which may not be recognized until grave symptoms reveal the trouble. Many people have sinus diseases, and are not aware of it, because it is so common to have nasal catarrh in this latitude. It has been estimated that one fourth of all adults have some sinus trouble. Inflammations of the antrum of maxilla are often caused by decayed teeth. Infection can be carried in the root canal of the canine or the first two molars. This is especially true when the floor of the antrum has been broken during extraction. Any closure of its natural outlet would cause maxillary sinusitis.

Diseases of the ethmoid, frontal, and sphenoid are rarely caused by trauma. They are most frequently due to some interference with their drainage. Their openings to the nares must be kept patent, because their secretions must have an outlet. A long continued inflammation of the sinuses usually results in a venous stasis. It is this form of catarrhal trouble that often leads to sinusitis. If the nose has good drainage, Nature will take care of itself of a cold or a rhinitis. There are few, if any, troubles; obstructions such as enlarged adenoids, hypertrophy, and deviated nasal septum, and the rhinitis leads to a sinusitis. Seldom would there be any acute diseases of the nasal sinuses if the nose and its entering canals had good drainage.

Diagnosis.—It is usually not difficult to tell which sinus is affected. There are a few symptoms, such as pain, rhinitis, and malaise, that are common to all sinus diseases.

In inflammation of the antrum, there is deep seated pain in the upper jaw on the affected side. There is pain in the nerves of the teeth, tenderness on pressure over the antrum. The degree of the rhinitis depends upon the duration of the disease. Transillumination is of no benefit in acute cases, but is serviceable in chronic suppurations.

In ethmoidal sinusitis, the pain is deep seated and back under the orbit. The rhinitis becomes very annoying; the discharges from the nares are not only profuse, but acrid and irritating. If the disease is allowed to continue for some time, the pain is referred to the posterior part of the orbit to the infraorbital and frontal regions. Examination of the nose will show seromucus, or pus in the middle meatus.

Sphenoidal diseases are usually due to an extension of catarrhal diseases of the nose or nasopharynx. Being closely associated with the other sinuses, the symptoms are not well defined. There is a dull boring central pain, distress in the occipital region, and sharp pain in the orbit of the affected side. The outlet being in the posterior part of the superior meatus, all secretions drop into the throat.

Treatment.—With an acute sinusitis is always associated a rhinitis having constitutional symptoms. Hence there is a need for general as well as local treatment. At the beginning of an acute attack of sinusitis, the patient should be given a saline laxative, preferably magnesium sulphate. This should be given daily, as needed, to move the bowels freely. Quinine, calomel, and Dover's powders are old remedies, but they are reliable. Their actions are antiseptic, laxative, diuretic, and diaphoretic. The object should be to relieve the system of all toxines. In those cases where the inflamed sinus does not yield to treatment, atropine will often relax the tissue at the outlet and thus establish drainage.

The rhinitis should be treated locally with soothing sprays. When the diagnosis is definitely settled, which sinus is inflamed, its outlet should be painted with a ten per cent. solution of cocaine and adrenalin. This will shrink the tissue so that the outlet will allow the secretions to pass into the nose. The nasal passages should be cleansed of all secretions with a warm antiseptic solution, and then sprayed with a warm camphomentholated oil. It should be a sterilized petroleum oil with a specific gravity as heavy as is possible to spray. Many physicians have discarded the oils in nasal work, because their results have not been good. This is due to the oils; the light paraffin, generally employed, is often irritating to the mucous membranes. This treatment should be repeated daily, or as often as the gravity of the case indicates. As soon as the stage of resolution is established, venous congestion will be overcome, relaxation takes place, and normal drainage will be resumed. If free drainage will be given the inflamed sinus, it will not become chronic. But if the secretions are

retained in the cavity and its natural orifice closed, it will be necessary to give it drainage through an artificial opening.

If the inflammation is in the maxillary sinus, the opening depends somewhat upon the cause of the trouble. If due to a diseased tooth, it should be extracted and the fossa enlarged to give free drainage for the pent up secretions. If the teeth are normal, an opening can be made into the antrum from the lower or middle meatus. Some operators advocate the former, even if the bony wall is thicker than in the region of the middle meatus. Others say that the natural opening, the ostium maxillare should be made sufficiently large to give proper drainage. There is no doubt better drainage can be had by making the opening through the canine fossa or the alveolar process of the maxillary bone. The conditions of the case should indicate where the outlet should be. If established early and the sinus treated antiseptically, the case will usually make a quick recovery. If the sinusitis should be in the anterior ethmoid or the frontal it is not so easily treated, because their access is more difficult. The same is true of the middle and posterior ethmoid and the sphenoid sinuses. From the nature and location of the exudates coming from these cavities, from the degree and locality of the pain, one can usually tell whether the inflammation is in the sphenoid, frontal, or ethmoid sinuses. The treatment of these cavities is very much the same as in antral troubles. Given a rhinitis, followed with a chill and fever, and with pain in the region of one of the sinuses, it is almost invariably an acute sinusitis. It matters not which cavity it happens to be, it should have good drainage. If the natural outlets cannot be made patent, then artificial openings should be made. If seen early and treated carefully, the prognosis of all these cases is generally good.

To treat cases of acute sinusitis a long time with sprays, without a definite knowledge of their conditions, is certainly bad practice; because it is often difficult to reach the hiatus, the outlet of the maxillary, frontal, and anterior ethmoid sinuses. The obstructions in the nose, such as enlarged turbinates, neoplasms, and deviated septa impede the drainage in very many cases. To temporize in these cases is allowing the disease to become chronic. Not all nasal obstructions lead to sinus diseases, but practically in all sinus troubles there are some nasal obstructions. The middle turbinate is the greatest offender, and when it impinges upon the hiatus, it should be resected. In fact, all obstructions should be removed if they interfere with proper nasal and sinus drainage.

The following cases will illustrate that, when Nature is early assisted, they recover quickly:

CASE I.—Patient, forty years old, had a rhinitis of four weeks' duration; a profuse discharge of seromucus from the right nares. Pain on the right side of the head, in the upper teeth; also headache and general malaise. There was some pus in the middle meatus. Diagnosis: maxillary sinusitis. Prescribed a saline laxative, with quinine and Dover's powder for two days. The nose was treated as outlined in the paper. She made a good recovery in two weeks.

CASE II.—Patient, twenty-seven years of age, had a rhinitis, pain on the left side of head for three days; then followed erysipelas of the whole face, chill, fever, delirium, and all the symptoms of a streptococcus infection. Thorough drainage was given through the canine fossa. All the symptoms abated, and in one week he resumed his work.

CASE III.—Patient, eighteen years of age, had a rhinitis of three months' duration. Pus in the middle meatus of the right side, pain in the orbit, in the temporal region and general headache almost constant, exophthalmos of the right eye, with an external deviation, oedema of the lids, and vision $\frac{20}{200}$. Diagnosis: inflammation of the anterior ethmoid cells, where the exudate found its way into the orbit. The patient had been treated for exophthalmic goitre, of course with no results. The condition of the eye demanded immediate attention. At my first examination I resected the middle turbinate bone, and gave free drainage to the ethmoid cells. All the subjective symptoms were relieved immediately. She made a complete recovery in three months, with vision $\frac{20}{20}$.

CASE IV.—Patient, thirty-two years of age, gave a history of a nasal trouble of four months' duration, but an unusually severe rhinitis of two weeks standing. There was pus in the middle meatus, pain in the supra-orbital region, headache and oedema of the eyelids. Diagnosis: frontal sinusitis. The middle turbinate was very much enlarged and grown to the septum. Its hypertrophy so occluded the nares that drainage was wholly into the pharynx. One might have taken it for a sphenoid inflammation. The septum was deviated, occluding also the right side, that he complained of a constant dropping into the throat. I removed the middle turbinate bone, and later did a submucous resection of the septum. This established drainage. He was then treated, as outlined in the paper, making a good recovery in three months.

It would be tautology to give the histories of more cases, because the treatment of all acute sinus diseases is very much the same. As stated before, the remote causes of most sinus diseases are obstructions in the nasal passages, the middle turbinate and the deviated septum being the chief obstructions. When all abnormalities are removed and proper drainage is established, Nature, unaided, will cure most acute cases of sinusitis.

I do not wish to be understood that treatment should be omitted, even though drainage is established. I am a firm believer in medicine in the right place and at the right time. But as the tendency of Nature is to free herself of any bacterial invasion, the obstructions should be removed that she can receive the benefits of gravity and capillary attraction.

NORTHEAST CORNER OF SECOND AND FRANKLIN STREETS.

CONSTITUTIONAL LOW ARTERIAL TENSION AND ITS RELATION TO THE LIFE OF THE INDIVIDUAL.

By LOUIS FAUGERES BISHOP, M. D.,

NEW YORK,

PHYSICIAN TO THE LINCOLN HOSPITAL.

As pointed out on several occasions, there are certain individuals in whom the blood pressure is constitutionally low, and who present certain striking characteristics. These patients frequently have a gouty ancestry, and strangely

may be found in any young female, who, when feeling better than their short-lived cases of high arterial tension. The condition is constitutional and therefore not associated with any of the ordinary causes of low arterial tension, and observation has not indicated them.

These patients only feel very little arterial tension but a very badly pulsing (not long period) action, and yet show none of the ordinary symptoms of circulatory disease. Possibly the cause may be found in relaxation of the peripheral circulation which causes the small vessels in the arterial system to be prominent. While some of these patients are constitutionally healthy many of them respond favorably to demands for physical or nervous effort, and when aroused show a decided improvement in the tone of the circulation. To one who sees a patient of this character for the first time when ill with some other disease, the poor quality of the pulse naturally gives rise to anxiety, but when patients have been known for years to get along perfectly well with this condition it becomes recognized as something characteristic of the physiology of the individ-

excluded in every instance by prolonged observation.

These patients are not suffering from any definite disease, but they realize they are not just like other people. They have probably been told that they are suffering from a variety of diseases according as the phenomenon were traced to one or another organ. Such patients are fortunate if they are continually under the care of a practitioner who finally comes to appreciate the condition and brings judicious management to bear upon it. They should be thankful, indeed, if they are not subjected to repeated local efforts to cure supposed local disease by different physicians at different times. The condition is one of long duration, often apparently congenital, and frequently lasting throughout life. Some individuals gradually acquire a normal tension, and in many persons the condition becomes less marked toward middle life. Treatment by drugs alone is not judicious, though at times they are most impor-

24 West FIFTY-FIFTH STREET.

MASSAGE IN PARAMETRITIS, PERIMETRITIS, SALPINGITIS, AND OOPHORITIS.

BY GUSTAV NORSTROM, M. D. (STOCKHOLM),

NEW YORK.

The name constitutional low arterial tension is to cover this class of patients better than any other. The condition is much more common than I had at first supposed, and I am sure there are but few physicians who could recall examples of it. Of course it must not for a moment be confused with the low arterial tension that is the result of lack of power on the part of the heart to produce pressure, or which is the result of exhaustion of the circulation from an unusual demand for pressure, as in Bright's disease.

Persons subject to constitutional low arterial tension present certain characteristics. They never feel under the stimulation of excitement, and require for their well being an unusual amount of activity and exercise. They are often able to endure without injury an amount of prolonged excitement, or even dissipation (except the use of alcohol), that in a person with a tendency to high arterial tension would be most injurious.

The management of constitutional low arterial tension is directly the opposite to the treatment of low tension that is due to the ordinary causes. These patients require active exercise; horseback riding seems to be the best possible form. Many of them find by experience that cold bathing does not agree with them, but that a very hot bath of short duration acts as a very powerful stimulant. While, as remarked before, the ordinary symptoms of circulatory deficiency are absent, still there is sometimes a great lack of muscular activity, that cold feet and hands are a constant complaint. Other patients with this condition suffer from occasional fainting attacks, and are inconvenienced in general by the same symptoms as are denoted by an extra blood supply in any particular region of the body. Hence the condition is directly opposite to the usual stimulus. The inference must not be drawn that we have a condition of constitutional low arterial tension which of course is directly stimulated, and will be

I finish the series of my articles on the manual treatment of diseases of women by speaking in the following article of massage in affections of the adjacent tissues of the uterus (parametritis, perimetritis, salpingitis, and oophoritis).

Parametritis.—The term parametritis is applied to inflammation of the pelvic connective tissue, whereas the perimetritis is applied to inflammation of the pelvic peritonæum. Both are frequently due to the same cause, but their pathology and complications differ. They do not yield to treatment in the same way. Perimetritis is productive, and forms new tissue, and almost always causes adhesions which become organized and are with difficulty caused to disappear.

Parametritis is often due to a simple infiltration of the pelvic connective tissue, a true œdema; fibrous transformation corresponds to a much more advanced stage. The distinction between chronic parametritis and perimetritis, while indispensable from a clinical and therapeutical point of view, is only artificial. It is impossible to imagine an inflammation of the pelvic peritonæum, however circumscribed and sub-acute, without its invasion of the adjacent connective tissue. It cannot be conceived but that in the course of a cellulitis the serous covering would be involved.

Gonorrhœal parametritis, independently of salpingitis and perimetritis, occurs but infrequently. The gonococci pass from the interior of the uterus to the tubes. The infection is thus carried directly to the peritonæum and not through the cervical lymphatics. The condition may occur alone, or with ovaritis, periovaritis, salpingitis, and, above all, chronic endometritis.

As I will show later on, there is established under certain circumstances a vicious circle, the para-

metritis causing the endometritis. In these cases it might at first be difficult to determine which of the two was first present. Contrary to the general rule in medicine, it is the result here which first must be treated, and only when this has disappeared must you attack the disease.

The extent, location, size and consistence of the exudates vary a great deal. I have seen some which completely filled the pelvis. The rectum, completely surrounded by hard masses, had scarcely sufficient lumen to permit the passage of feces. In many, the exudate is very thick and is of considerable extent. Such cases are not always the most favorable for treatment. The shape is equally variable, and sometimes difficult to make out. At the outset, the exudate proper is surrounded by a zone of œdematous boggy tissue, which causes the outlines to become indistinct. Frequently the lesions exist near the uterus or especially at its sides, having their seat in the ligamenta lata. Sometimes they are situated so high up in the pelvis that it is almost impossible to reach them through the vagina. Exudates of Douglas's cul-de-sac are common. I have met with postcervical cellulitis which is, I believe, more frequent than is ordinarily described. As it frequently exists with exudations in Douglas's cul-de-sac, it is often confounded with them.

The consistency depends upon the duration of the process. At times it is very slight, especially during the acute stage, and naturally is not to be massaged. A short time after labor it is much better for massaging than later on, for at this time the exudate partakes of the general softening of the pelvic tissues. Some exudates frequently disappear of themselves at this time. If you avail yourself of this opportunity everything will be favorable. When the production of almost fibrous tissue has taken place it is entirely different. I do not speak here of the formation of adhesions, properly so called, for these are the direct results of perimetritis. The exudate may undergo—and it does this often—a secondary retraction, and form a compact, hard mass, comparable to those of old cicatrices. These alterations may extend to only one or both of the broad ligaments and produce displacements of the uterus, which can readily be explained.

The use of massage in the treatment of parametritis brings up many questions, the solution of which is necessary in order to avoid disappointment. When must massage be commenced? The treatment must never be begun as long as there is the slightest suspicion that the acute stage of the inflammation has not subsided, as long as the patients have chills, or a rising temperature, or increased pulse rate. This rule must be invariable. Even when the acute stage has completely subsided, it is occasionally necessary to wait a while because secondary suppuration may occur from one cause or another in the exudate.

I do not believe in the effect of local applications of different kinds, and particularly not in prolonged hot irrigation, as recommended by Emmet. Many physicians employ these exclusively, and sometimes obtain good results in recent cases. How do these act? I do not know. Perhaps by mechanical irritation on the exudate through the medium of the vaginal wall. This would be a sort of indirect massage. On the other hand, these injections may cause

local congestion favorable to the absorption of the exudate. It would then act similar to the menstrual flow. I have several times availed myself of this means. It is inoffensive, and I have never seen any unfavorable symptoms following it; but it never, in any appreciable degree, hastens the patient's improvement. The recovery takes place more quickly with massage than with any other method, sometimes in a few days. If, however, you have to deal with fibrous exudates or cicatriciallike tissues, neither baths nor injections will produce any effect. It is then necessary to resort to prolonged and energetic massage with stretching. Applying this conservative treatment you will almost never be obliged to have recourse to a surgical intervention.

Massage ought to be better understood by the medical profession, and then the organized exudates, which may even go so far as to produce cartilage like hard strings, could be prevented. It might be said without fear of contradiction that when once this connective tissue has retracted and when, in consequence, no absorption can take place, all remedies for this purpose, such as ichthyol,¹ dry cotton tampons—these two are so very frequently employed in this country—and glycerin tampons are of no or very little use.

The recovery may be regarded from two standpoints, from that of the physician and that of the patient. Unfortunately, the patient's symptoms are not always a guide to the local conditions. When the patient has been completely relieved of the symptoms complained of, she regards herself cured because she no longer suffers, is gaining flesh, is able to go about and attend to her ordinary household duties without pain. However, the physician will sometimes find that a portion of the inflammatory exudates persist.

This happens particularly in cases where retraction of the broad ligaments has occurred, in which the fibrous bands have not completely disappeared, or where there are large, hard scars in these same ligaments, in which a part of the indurated area is subsisting and where, even after persistent long treatment, the remaining indurated areas are no longer influenced. One may with perfect justice claim a symptomatic cure, provided the subjective symptoms are gone.

CASE I.—Mrs. A., twenty-eight years of age, laundress. Patient had four years ago blennorrhagia; discharge thick, yellowish and profuse. As the result of this, distention of the abdomen and pain so that she could not even bear the contact of the hand. There was an almost constant abdominal pain on the left side, which became more pronounced and painful at the time of menstruation; she experienced also at this time a pretty sharp pain in the region of the left ovary, and had to stay in bed. She obtained relief from the application of a hot water bag. Dyspareunia was so severe that sexual intercourse was almost impossible. Digestion was good. Under injections of a decoction of oak tree bark and tampons of alum the discharge diminished considerably and assumed a whitish color. Micturition became not so painful any more; the other sensitive local points did not change in the least. In the course of last summer, applications of vesicatories to the left side gave an improvement for two weeks;

¹The experiments of Professor Chrobak, performed several years ago, on a large number of patients in his clinic at Vienna, demonstrated most clearly that the results obtained with ichthyol, compared with expectant treatment, did not affect the course of the disease in any appreciable degree.

but the uterus was retroverted very much. Ovaries were found in the lower part of the abdomen.

The bimanual examination I found on the left side a parametritis with an exudate as large as a walnut, situated near the insertion of the uterus at the base of the broad ligament. It was bounding and very sensitive to pressure, especially posteriorly, easily detected through the uterus. The uterus was somewhat inclined towards the right and somewhat increased in size. The right ovary (ret.) The left ovary, situated deep in the pelvis, was sensitive on pressure and larger than normal. The ovaries were found with the same characteristics as the uterus; the former did not seem to require pressure. Uterus and ovary could without difficulty be moved in the abdomen, but in contact with their normal position. As the abdominal walls were quite soft and thin, exploration and massage could be comfortably carried out, using much force. Massage was performed through the rectum. The exudate in the broad ligament was removed, effusion on account of its great size and hard consistency.

The treatment lasted ten weeks. The uterus completely regained its mobility; of the tumor only a small portion of the size of a nut and of the size of a lemon remained close to the cervix. The left ovary and tube increased in size as well as sensitiveness, but they were still displaced. The patient's general condition was satisfactory, she suffered no more, the last menstrual period was not more painful than when the patient became ill three or four years ago. No more dyspareunia; but a slight, whitish discharge remains.

CASE II.—Mrs. L., forty-two years of age. Patient had borne four children. Twenty years ago the uterus was enlarged and an abortion having as its principal manifestation a leucorrhoeal discharge which was yellowish, thick and abundant, probably of hemorrhagic nature. Her condition then improved gradually, but never got better completely. She complained of irregular and abundant menses, especially on the right side. The vaginal discharge did not contain gonorrhoeal matter. For a number of years she went to several clinics, and received various treatments, without much benefit; different internal as well as external. I saw the patient for the first time in 1890 at the clinic of Dr. Pons.

The examination was difficult, because of her corpulency. The uterus was of abnormal size (nine centimetres), firmer than in normal condition and retroverted. On examination by the rectum it was found that the uterus was enclosed between two hard tumors, the larger one, which almost completely filled the left half of the small pelvis, compressed the rectum and extended backward as far as the sacrum. It did, however, seem to be fixed to the former. On bimanual examination I found that it reached as high as the iliac crest; the left ovary and the left tube seemed to be enclosed in this tumor. The peritoneum was opened from it by a small furrow. The tumor on the right side was of the size of a large nut. The swelling on the right side was evidently formed by a fibroid, while on the left the tumor seemed to be of a more complicated nature. After six or seven weeks massaged and warmed portions, consisting of inflammatory exudate, were removed. The uterus was found to be fixed to the left tube had increased in size and was as large as the thumb. I could not fully and the abdominal cavity fluid. The uterus had become fixed to the tumor and partly moved. The more was fixed to the tube by a slight adhesion. I succeeded in freeing it by stretching. I did not think it wise to massage the tube itself, for fear of rupturing it, and after leaving the patient no longer

felt the slightest pain on the left side. On the right side, corresponding to the fibrous tumor, she still complained of pain from time to time. Dysmenorrhoea was improved. The bowels moved regularly. Her general state of health improved considerably.

Perimetritis.—Massage may be useful in this affection if it is not contraindicated, but I must qualify this statement by saying that its results are not as satisfactory as in parametritis. Perimetritis always has a tendency to form new tissue, and adhesions remain after the acute stage is past. Adhesions of the tubes to the ovary, adhesions of the tubes and ovaries to the intestines, to the pelvic walls, to the bladder, etc., often result.

Gynaecologists and pathologists are unanimous in the belief that adhesions due to local peritonitis of the pelvic organs are more frequent than is generally supposed. They are often found at autopsy in patients who have died of other affections than those of the pelvic organs, and who never complained of symptoms referable to these adhesions. From this it can be inferred that adhesions due to slight peritonitis are usually well borne and cause only slight pain or no pain at all.

Accurate diagnosis, as in all periuterine affections is not always possible at the first séance. There may exist physical obstacles preventing us from arriving at the proper diagnosis. This may happen to the most experienced diagnostician, even if he is well versed in pelvic massage. We ought not to be discouraged at this. But by perseverance you will almost always be successful in a few days, and not be compelled to resort to anæsthesia except in very few cases.

Adhesions to the intestines, tubes, bladder, etc., are sometimes present. It might be easy to loosen these by brisk manipulations, but the tearing of a portion of their walls might be the result. Great care must be used in such cases. The thicker and firmer the adhesions the greater should be the care. Perimetritis terminates sometimes in cystic collections of fluid. There is great risk of rupturing the tubes and emptying their contents into the peritonæum, because uncertainty must always exist as to the nature of their contents. I am well aware that the rupture of these fluid sacs is not always followed by serious consequences to the patient. But in spite of this, I would never advise anybody to attempt it. I shall allude to this subject later on.

The results obtained are, as we already have told, less satisfactory in perimetritis than in parametritis. In the latter we frequently obtained recovery in the absolute sense of the word. We had complete disappearance of the exudate, and most often even of its final condition, the scar, which is really a return to the previous condition, a real restitutio ad integrum.

We must not expect that the adhesions of perimetritis will entirely disappear. If you can stretch them, render them less firm and obtain marked improvement of the local and general condition, sometimes approaching a real cure, much has been gained. In other cases it is useless to prolong the treatment, as you will accomplish nothing by it. The case then requires surgical intervention.

CASE III.—Mrs. C., thirty-six years of age, dress-maker. Patient had four pregnancies; the first one terminated in an abortion, the three others at full

From the French of Dr. Pons, in the *Revue Médicale*, 1890, p. 102. I have translated it into English, and have added a few remarks of my own. I have also translated the title of the article, which was "Leucorrhoea and Parametritis."

term, the last one three years ago. Eighteen months ago (July, 1885) she had chills, pains in the lower part of the abdomen, especially on the right side; abundant yellowish thick discharge; nevertheless she remained up and about. At the end of three months the pain had calmed down, but did not disappear. From time to time, especially when she had taken a long walk, she experienced the peculiar sensation as if she had a movable tumor on the right side. At the time of menstruation the pains were like those in confinement, accompanied by a very painful sensation of pressure in the rectum. The patient urinates frequently, two to three times in an hour; the urine is often cloudy. No constipation; from time to time, desires as if she had to go to stool. Two applications of the thermocautery on the uterine neck relieved her for a little while. An ulcer of the cervix was cauterized.

Upon examination the uterus was found to be increased in size, retroverted, partly movable toward the front, but it immediately resumes its malposition on releasing it; it is attached to the rectum by a very large, firm, and very sensitive adhesion. The right tube is dilated, of the size of the index finger; fluctuation very distinct. The left tube is not much larger than a lead pencil, but firm, and hard on pressure. The corresponding ovary is of the size of a pigeon's egg and very sensitive to the touch; the right ovary is a little increased in size and painful. Discharge in small quantity, more white, but does not contain gonococci.

Stretching and massage through the vaginal and rectal route, and through the abdominal walls were begun in December, 1886, at the St. Louis Hospital, the condition permitting a simultaneous massage of the uterus. At the end of three weeks the patient had to interrupt treatment. Her condition had somewhat improved. At the end of five weeks massage was resumed. Treatment was stopped toward the end of March, 1887. The uterus could only be partially freed posteriorly; the right ovary was insensitive and almost of normal size; the left ovary greatly diminished in size, but still a little tender. The left tube was softer, and its walls are of normal thickness. There was still a little pain at the time of menstruation, but this pain is nothing as compared with the pain that existed previously. The sensation of a tumor had disappeared from the right side. The leucorrhœa was almost gone; it did reappear, it is true, after the last menstruation, but very slightly. The patient urinated but five or six times a day; the urine is clearer. She returned to her work. I heard from her in March, 1888; since two months she considered herself pregnant, with increasing improvement.

All adhesions do not produce such characteristic results as those which fasten the uterus to neighboring organs. There are some adhesions between the ovary (tube) and intestines, for example, which are so loose as not to produce any symptoms. These are sometimes torn by the slightest pressure of the finger when the pelvic organs are carefully examined; in most cases this tearing of the adhesions produces no bad results.

But the physician need not concern himself with trifling lesions which produce hardly any discomfort to the patients. What interests him are firm, cord-like and membranous adhesions. Some physicians break up these adhesions under an anæsthetic. This procedure appears to me so bold that I hardly dared to imitate it, and I do not advise anybody to follow it. The forcible stretching of adhesions, recommended by Schultze several years ago, under chloroform narcosis, appeared to me to often expose, if not always, to lacerations of which I am afraid. You

may proceed like Schultze, at a single séance;⁵ like Gottschalk,⁴ in two séances, with an interval of twenty-four hours; in two séances within a week, like Ter Gregoriantz;³ it is all the same. It is always equally dangerous. No matter how accurate the diagnosis or how delicate the touch, it is impossible to perform the manipulations with such precision as to be sure that the desired end has been obtained. I like to proceed slowly and with method, the patient fully conscious, because her sensibility is always an infallible guide. Prochownik among others mentions that he has met with attacks of acute perimetritis in patients whom he has thus treated. He thinks these attacks were due to laceration of adhesions. These lacerations certainly could not have been produced if the patients had been conscious. Fortunately, these symptoms were soon relieved and did not give rise to any untoward complications.

On general principles, it is not considered advisable to forcibly stretch adhesions while the patient is entirely unconscious. A connecting band can scarcely be kneaded; it must be stretched. Brandt has given some excellent rules regarding this, which I have always followed to the letter. Thanks to his vast experience and to his keen observation, he had arrived at technics which were almost perfect. Stretching must not be undertaken until complete organization of the exudate has taken place; that is to say, after the absorption of the liquid elements. Then the danger of setting up an acute attack need not be feared. The adhesions are gradually stretched by the tip of the index finger, without attempting too much at each séance. It causes slight local irritation, due to the pressure made with the external hand and below the adhesions. Sometimes this irritation gives rise to distinct swelling, very sensitive to the touch, or also, this is rare, to a real tumor, which, however, was never followed by any untoward complication. This is only œdema, which can be quickly diffused by effleurage in two or three séances.

It goes without saying that the rapidity of the results depends on the duration and tenacity of the adhesions. If these are soft and easily distensible only a few séances are necessary. Very firm and hard adhesions and bands require, of course, much perseverance. I have often met with such strong and hard adhesive hands, which so firmly fixed the uterus, that I asked myself whether it was worth while to try to distend them. After numerous séances I am content if I can stretch the adhesions sufficient to obtain a partial rectification of the position of the uterus and considerable mobility.⁶ I have attained this without attempting, if possible, to avail myself of the softening of the adhesions which occurs at the menstrual epoch, as Brandt has done.

I treat my patients while they are conscious, and am very seldom surprised by some slight accident. But the sensitiveness of the patient is not the only guide, the muscular sense of the physician is equally important in determining the amount of force to be employed. In a beginner this sense is not as well developed as it will be later on. At first the tactile

³ *Pathologie und Therapie der Frauenkrankheiten, der Gynäkologie*, Berlin, 1881.

⁴ *Centralblatt für Gynäkologie*, 1889, No. 8.

⁵ *Ibidem*, 1888, No. 13.

⁶ The bands are stretched and stretched, but are rarely absorbed. I have at times obtained so much yielding that a uterus previously fixed in retroversion by adhesions in Douglas's pouch could be brought into its normal position, or even into a position of slightly anteversion, at least for a time.

allow the user to generate the most useful which can be used as a follow-up query. On adhesions. This may result in increased blood flow.

Callosities themselves are very frequent. Their treatment by massage and stretching of the calloused skin may be regarded as favorable, when the ulcers can be brought convenient away from the point of fixation, without possible pain and inflammation.

If in some cases, removal of pyramidal massage is not the result of simple changes, when the neighbouring organs and its adnexa were affected, it might be considered that there is an absolute independence of the organ of neighbouring organs and its adnexa, and that there is no connection between them from a physiological as well as from a pathological point of view.

We have never held this opinion, and we do not wish to be understood as holding it now either. On the contrary, it is rather rare for the uterus to be uninvolved in cases of chronic metritis or parametritis. There are many cases of troubles resulting from chronic uterine stasis, which is the invariably associated with there is a large and firm exudate in the broad ligaments, when there is fibrous tissue in the broad ligaments of a certain calibre. The swelling and chronic engorgement of the uterus result from this. These are complications which disappear after marriage and parturition as soon as normal uterine action has been reestablished and the compression removed. The cure of the perimetritis is generally followed by relief of the conditions which are caused by the passive congestion of the uterus. If, however, this congestive state has produced an increased density of the organ, it is difficult to obtain relief without removing also the uterus itself, which is likewise necessary where metritis (endometritis) constitutes the primary disease, and where the inflammation of the subject is but a complication.

of the uterus, and is a frequent symptom of metritis as well as indirectly of parametritis and perimetritis, and unnecessarily alarm the patients as well as physicians. In general these ulcerations are very rebellious to local treatment, and seem often to persist in spite of powerful caustics, which, at the most, can have but a temporary and palliative effect. The ulceration, however, disappears, as if by magic, when it assumes the character of a simple granular ulcer, and the parametritic exudate, pus and mucus and debris have disappeared. It has been suggested by me that this condition was a result of malnutrition due to the uterine venous congestion kept up by irritating discharges from the uterus and vagina. The rule is, the greater the quantity of pus, the worse are the ulcerations. If the complaint has existed a long while and the ulcerations are exceptionally large and deep, it is probable that sometimes persist even after the cessation of the discharge from the uterus, but then again the ulcerations become healed, so that they looked like the ulcerations of the cervix.

upon my recommendations the patients returned in a month or two the ulcerations were mostly healed, although they had not pursued any further treatment. Superficial cauterization may be resorted to in rebellious cases, in order to hasten the healing, but it must then be done, of course, toward the end of the course of treatment by massage. These ulcerations always have a tendency to recur at times after they have been healed by some local treatment, in this respect resembling varicose ulcers. There is no reason for alarm on account of this. When the venous stasis has been relieved by massage there is little fear of recurrence.

Inflammation of the Tubes.—Forty years ago this condition was hardly mentioned. Too little attention has been given to this subject, as it is quite natural to suppose that when these are seriously involved as a result of uterine or ovarian affections they change the clinical aspect of the case and may furnish indications for treatment. Nowadays, perhaps, too much stress is laid upon the tubes. It is almost believed that their primary and localized affections dominate the pathology of the entire female genital apparatus. This view is radically wrong, as nothing is rarer than a primary uncomplicated salpingitis, or a lesion wholly confined to the tube. Nine times out of ten the starting point is an endometritis which has gradually progressed toward the orifice and mucous membrane of the tube. Later on there is a sort of inversion of the terms, and the uterus, which was at first the cause, plays a secondary part and its place is taken by the tube. After treatment and improvement of the endometritis the salpingitis almost always persists. These secondary invasions are almost exclusively confined to the mucous membrane. According to the researches of the last years, blenorragia seems to play an important part, although perhaps exaggerated, as it has a tendency to fix itself in the racemose glands of the cervix and remain there a long while before going higher up into the uterine cavity and invading the tube. Whenever the question of treatment of peri-uterine affections by massage arises, the condition of the tubes and ovaries must be carefully considered. This is not always easy. The normal tube is difficult to find on account of its small size and great mobility. It constantly eludes the examining finger, but offers swelling and indurations, as is the case with all the pelvic organs a few days before and during menstruation, it is more readily felt. Furthermore, there is hardly a single organ in the pelvis to which the tubes may not be united by adhesions; they may also be adherent to the lateral walls of the pelvis or the abdomen.

Sometimes you find on one side of the pelvic cavity a large mass whose precise nature is difficult to make out. The treatment is then a diagnostic point: when the absorption of the exudate takes place the various parts which were at first united in a single mass become free and distinct, and it is often possible to distinguish the tube, ovary and intestinal coils. In combining petrissage with tension, cautiously applied, as I have explained, the desired results are obtained and the organs frequently regain their former mobility. What, then, is necessary if the tube can be felt and is diseased? Brandt believes that massage might be attempted even in cases of salpingitis with a tube containing liquid, as a

result of occlusion of the ostium abdominale. He made gentle frictions from without inward; that is to say, from the abdominal toward the uterine orifice, in order to hasten the discharge of the serous or serosanguineous fluid, which is sometimes observed to take place spontaneously, even intermittently, into the uterine cavity. Thus far I have not applied this procedure, because I was afraid of the possibility of doing harm. It is difficult to determine, as I have already said, what a dilated tube contains. Frequently surgeons who operate, thinking they have to deal with a small or medium sized hydrosalpinx, find to their surprise that they have a pyosalpinx to deal with, and, on the contrary, a hydrosalpinx is found where a pyosalpinx is suspected. It is equally difficult to say that the discharge will take place directly from the tube into the uterus and that not a drop enters the abdomen, in case the ostium abdominale is not entirely closed by previous local perimetritis or that a real rupture of the sac will happen. The peritonæum, little tolerant to liquids of any kind, reacts in a peculiarly unfavorable manner when pus enters its cavity. Brandt did not recommend this manipulation with the same conviction as many others. If he did not obtain quick results he ceased massage. I have thus far believed that it would be better not to undertake this than to risk too much for such an uncertain result.

I am less positive in cases of chronic salpingitis accompanied only by slight dilatation of the tubes. If they contain fluid, it is in small quantities; and the tension of the tube is consequently not so great. Massage is then not so objectionable and gives good results. Furthermore, I have also frequently seen such cases of salpingitis disappear without direct intervention as soon as the uterine catarrh was relieved.

Moreover, Professor Curschmann, of Leipsic, some years ago demonstrated that a leucocytosis was more or less a proof of the presence of an abscess. These observations have later on been confirmed by Dr. Dutzmann,⁹ in the gynæcological clinic of Greifswald, particularly in reference to tubal affections, and to such a degree that in many cases before operative interference, the probable diagnosis derived from the clinical symptoms was contradicted by the increased leucocytosis.

In view of these results, if they would be confirmed, massage of the tubes may be employed without running the risk of their rupture.¹⁰ In interstitial salpingitis, with thickening and hardening of its walls, massage acts well in reducing its size and consistence.¹¹

⁹ *Centralblatt für Gynäkologie*, April 5, 1892.

I see that of late Dr. H. C. Tabor, of New York, has made quite interesting researches in order to elucidate this question, the result of which he has published in the *New York Obstetrical Journal*, October, 1905. He has found that in suppurative inflammation of the tubes there is a considerable increase of white blood corpuscles during the acute stage, the leucocytosis diminishing as the acute symptoms subside. In the chronic cases, the only ones which interest us here, there are, according to his investigations, many cases free from exacerbation, where there is practically no leucocytosis at all.

¹¹ Reading the proofs of this article, I see that in the number of November last of *Archives des Maladies des Femelles* d'Alger, Dr. Pasteur has published the result of his treatment by massage of various chronic genital affections, amounting to not less than 200 cases. All of them were treated in the service (clinique) of Dr. Pozzi, professor of gynaecology at the University of Paris. Of these Dr. Pasteur has been able to see not less than two thirds at the clinic quite some time after they were discharged and cured. As no relapse had occurred during the interval they were consequently regarded as definitely cured. Among the patients treated and cured were also six cases of double cystic salpingitis. (In one of them the result was less conclusive, as massage was interrupted before a complete result

tubal adhesions must not be roughly handled; too many precautions cannot be taken in detaching or stretching them, if you do not wish to run the risk of rupturing the tube and its possible complications, since the tube is in these cases distended with a fluid almost always purulent in character. In order to avoid rupturing the tube it is necessary to introduce the fingers far into the rectum, behind the tube, carefully avoiding any pressure and endeavoring to reach the adhesions. When the adhesion has been reached, it is steadied with the finger and then slight traction is made with the finger of the other hand through the abdominal wall. It is also possible to do this by fixing the hand on the abdominal wall and making the traction with the finger in the rectum. Then the adhesion is massaged at the same séance, which is concluded by gentle and superficial manipulations, which allay the irritation produced by the traction. It is necessary to keep as much as possible away from the tube, that the manipulations of massage and the traction be exclusively confined to the adhesions and thus avoid working on the peritonæum proper, close by.

In a great many cases the results obtained by this procedure are not very satisfactory, on account of the difficulty of reaching the adhesion, which frequently is very tender to the touch, and principally on account of the impossibility, not to say danger, of making use of the tube as a lever. When the tube, on the contrary, is adherent to the lateral pelvic wall or to the hollow of the sacrum (which is very rare) the results are more favorable.

Oophoritis.—The ovary is a very movable organ, almost as freely movable as the tube, and eludes the examining finger, making it more or less difficult to feel it. It is rather exceptional to find it in its normal position. Even in cases which are not exactly abnormal, especially in multiparæ, the suspensory ligaments, and particularly those which attach the ovary to the pelvic wall, allow the ovary to descend on account of its own weight and occupy the position in which it is very often found, on one side of the uterus, near its lateral border. It can be most easily felt through the abdominorectal route, provided the examining finger can reach high enough above the third sphincter. In this way you can explore the entire posterior uterine surface, Douglas's pouch, the parametrium on both sides, as well as the fundus of the uterus, and in favorable cases reach even high enough in the pelvis to explore its highest portions. Massage rarely, except in recent cases, gives what might be called recovery, that is to say, *restitutio integrum*. Sometimes the ovary is painful and œdematous, which facilitates its examination. Massage employed under these circumstances causes the œdema to disappear at the same time as the pain in a very short time, sometimes in a few days.

Even though the ovary always diminishes in size under the influence of massage, it rarely resumes its

was reached. The fluid did not appear in any of them to be of suppurative nature, and they were consequently regarded as cases of hydrosalpinx. The treatment was not followed by the slightest accident. The cure, which was obtained in relatively short time, was no doubt effected through the evacuation of the contents of the tubes into the uterine cavity, as a result of which also sometimes takes place by Nature's own efforts. As regards suppurative cystic salpingitis, the author expresses himself as follows: "Is there any possibility of cystic suppurative salpingitis not being benefited by massage treatment? Certainly not. Let us wait for the complete cessation of the acute phenomena, and, when the leucocyte count has indicated that the infection is over, one can readily have recourse to massage and may be almost sure of success without any accident."

Our Readers' Discussions.

A SERIES OF PRIZE ESSAYS.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

XLIX.—How do you treat lumbago? (Answers closed April 16, 1906.)

L.—What is the best form of shack or tent for tuberculous patients? (Answers due not later than May 15, 1906.)

LI.—How do you treat prolapse of the umbilical cord? (Answers due not later than June 15, 1906.)

Whoever answers one of these questions in the manner most satisfactory to the editors and their advisors will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED) that the answers be short; if practicable, no one answer to contain more than six hundred words.

All persons will be entitled to compete under the regulations laid down by the postal authorities. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL.

The prize of \$25 for the best essay submitted in answer to question XLVIII has been awarded to Dr. Frederick S. Macy, of the Army, whose article appeared on page 870.

PRIZE QUESTION NO. XLVIII.

THE TREATMENT OF PRURITUS ANI,

(Concluded from page 924.)

Dr. William Bedford Brown, of New York, states:

In all cases of pruritus ani all the possible causative factors should be given consideration, as gouty tendency, sedentary habits of life and lack of exercise, mental strain, particularly financial worry, general nervous debility, hæmorrhoids, fistula, hyperidrosis of the part, leucorrhœa and diabetic urine in women, intestinal parasites, seborrhœic and parasitic eczema involving the anus, chronic constipation, and particularly excessive indulgence in tobacco, coffee, alcohol, tea, or highly seasoned foods. In my experience the large majority of cases are due to several of these causes acting together.

When purely neurotic in origin, due to general nervous debility, relief from mental strain and worry must be obtained and the patient built up by proper tonics; a complete change of scene for a while will be of benefit. When due to a gouty tendency, defective elimination, lack of exercise and sedentary habits, salines should be taken every morning, preferably magnesium sulphate, and the habits, diet, and exercise regulated. I have seen benefit follow the use of high frequency electricity, inserting a rectal vacuum electrode in the rectum. A local sedative effect is obtained in addition to a general tonic influence.

Chronic constipation adds to the congestion of the parts and should be regulated, preferably by salines. The rectum should be washed out with soap and water enemata several times a week. When hæmorrhoids are present they should be removed in all cases without regard to the cause of the pruritus. Any existing fissures, although not

causative, add to the distress of the patients, and should be touched up with a ten per cent. silver nitrate solution, or the anus may be dilated and the fissures curetted.

The region should be washed several times daily with soap and water, as the secretions add to the irritation. A pledget of absorbent cotton should be constantly worn between the nates. Cocaine ointments or a sponge dipped in water as hot as can be borne by the patient applied to the region, will often check a paroxysm of itching.

In an obscure case, the possible existence of intestinal parasites should be borne in mind. Pruritus ani in women caused by the extension to anal region of an irritating eczema due to leucorrhœa or diabetic urine is not infrequent; the primary cause should be removed. Coffee, alcohol, tea, tobacco, and highly seasoned foods should be forbidden in all cases.

A common type is due to the involvement of the anus by a seborrhœic or ordinary parasitic eczema beginning between the nates and perineal regions. In all cases of long duration there is more or less marked secondary eczema of the surrounding region. Painting the region once or twice a week with two per cent. silver nitrate in sweet spirits of nitre, and afterwards applying a mild two per cent. salicylic acid ointment is sometimes beneficial. In infiltrated thickened conditions, I find the most benefit from the following applications:

R Hydrarg. bichlor., 1 gram;
Acid. carbol., 1.5 drachms;
Ungt. zinc oxid., 1 ounce.
and
R Liq. potass., 1 drachm;
Acid. carbol., 2 drachms;
Ol. lini., 1 ounce.

Applied to the anus and absorbent cotton placed between the nates.

When associated with acute moist eczematous conditions, I use this lotion:

R Ichthyol., 1 drachm;
Zinc. oxid., 1 drachm;
Magnes. car., 1 drachm;
Pulv. acaciæ, 0.5 drachm;
Sat. aq. sol. acid. boric., 4 ounces.

This should be applied after washing, several times daily.

Where seborrhœic or parasitic eczema is present resorcin in aqueous solution from three per cent. to fifteen per cent. in strength has acted best in my cases.

In conclusion, I would say, that every factor, whether causative or merely contributing to the local distress, should receive consideration in order to obtain the desired result.

Dr. W. P. Ristler, of Allentown, Pa., says:

The successful treatment of pruritus ani consists in the removal of its cause, if the same is discoverable. Care of the diet, attention to the condition of the bowels, and the most scrupulous cleanliness are the first essentials, especially when due to eczema, which is the most prolific causal disorder in this affection. In every case the cause must be found and removed, otherwise no permanent cure can be expected.

The causes of pruritus ani are sometimes easily found, and in such cases a cure rapidly follows their removal. When due to internal hæmorrhoids a speedy and effectual cure takes place upon their re-

simple itching of these parts requires only soap, water, and an astringent with tannic acid. Water with the use of lactate of green soap, followed by the application of silver nitrate or tannic acid, will often cure. In women, constipation, hemorrhoids, and all vaginal discharges must be removed, and the genital organs must be treated with silver nitrate should be examined for cancer. When due to fungus, especially with interdigital eczema, it may be immediately followed by proper surgical operation for the pruritus. When occasioned by the presence of pin worms, the proper treatment towards them and will result in relief. The affection is sometimes caused by pediculi, when our treatment must be directed towards that source. The disease is occasionally produced by herpes or by erythema, and a cure follows the removal of their dyscrasia. The affection will sometimes be encountered in stout, full-blooded persons who live well and perhaps incline to get fat. Then again it may be present in persons of exactly the opposite class, the overworked and worried professional or business man; regulation of habits will often be all that is necessary in such cases.

As pruritus may accompany the most serious forms of the human mind, and the itching which it causes is simply terrible in many instances, and the writer cannot conceive of a person so unhappy as the one who may be the victim of this distressing complaint (unless it be a lady with pruritus vulvae). Yet, happily, in the great majority of cases it is amenable to proper treatment, and often yields quite readily. The affection, therefore, is one of those which exemplify, in a striking manner, the resources of medicine. Pruritus ani of an acute kind may be due to vesicular magnum, but it is usually of a chronic type and may be accompanied by the perineal region, even the genitalia. When the trouble is due to an eczematous condition of this region, it is of the utmost importance to make a correct diagnosis; all the parts must be minutely inspected, the particular variety or kind of eczema being recognized. Every point of hygienic technique is required in these cases. When the induration is persistent, a solution of caustic potash or soda bi-carbonate, constantly applied upon and around the anus by means of a pad of absorbent cotton will soon greatly improve the pathological condition. The free use of tinctura saponis viridis composita is likewise very beneficial, followed by the application of equal parts of diachylon and oxide of zinc ointment. The use of Peru is salutary in some instances followed by bran poultices. Later, an ointment consisting of oil of rose may act very well. If excoriations exist in the anal aperture they must receive proper attention. The direct application of silver nitrate or tartaric acid in solution, according to the degree of abrasion into the fissures, may be resorted to. This treatment will bring about the formation of collation, and even effect a permanent cure. Glycerine (in ointment), chloroform and carbolic acid will also efficient local agents for the pruritus. Many females in this class, all of whom have been treated with silver nitrate, have been cured.

Any case of this disease is to be undertaken immediately when there is anything for any single treatment which may be of service. A cure

ful inquiry must be made into the patient's general health and habits. If chronic constipation be present, that must be overcome. Often the opposite condition exists, all due to faulty digestion. For these conditions I would suggest these adjuncts, tonics and stomachics.

- | | |
|--|-----------|
| 1. Pure green soap | 6 ounces; |
| 2. Pure tannic acid | 6 ounces; |
| 3. A solution of silver nitrate in water, three times a day | 6 ounces; |
| 4. A solution of silver nitrate in water, three times a day | 6 ounces; |
| 5. A solution of silver nitrate in water, three times a day | 6 ounces; |
| 6. A solution of silver nitrate in water, three times a day | 6 ounces; |
| 7. A solution of silver nitrate in water, three times a day | 6 ounces; |
| 8. A solution of silver nitrate in water, three times a day | 6 ounces; |
| 9. A solution of silver nitrate in water, three times a day | 6 ounces; |
| 10. A solution of silver nitrate in water, three times a day | 6 ounces; |

Dr. H. H. Hinton, of Huntington, N. Y., writes:

Pruritus ani is a condition manifested by irritation at the anus. It may be a simple inflammation, become excoriated, scaly, or purulent.

The causes are local, constitutional, or intestinal. Perhaps the most potent local cause is lack of cleanliness. Material allowed to collect, especially in children, will set up an irritation, increased by scratching or rubbing at the parts. In females the vaginal or urethral discharge often extends to the anal region. The various intestinal worms, acute or chronic intestinal disturbance, the discharges constantly irritating the mucous membrane and extending about the adjacent surface, are other causes. Some drugs have a markedly irritating effect, and the presence of hemorrhoids often causes a surrounding inflammation. Syphilis, the exanthemata, and long confinement to bed, where there is a general surface condition, cause an irritation at the anus, due, perhaps, in a measure to the approximation of the anal folds and consequent moisture of the part.

In treating the condition one will find the cause, except in the case of simple uncleanliness and excessive moisture, in the intestine, and relief of which will stop the pruritus. Soap and water, zinc ointment, dusting powder, or dry dressing, are the only treatment necessary for the average pruritus. Where excoriations exist, silver nitrate will prove valuable. Where hemorrhoids are the underlying cause they must be removed, as with fissure, or fistula. In other words, removal of the cause of the irritation will remove the pruritus often without any direct treatment of the latter.

Dr. M. Axford, of Buffalo, N. Y., notes:

To treat pruritus ani successfully the cause must be ascertained and of course removed. Barring a constitutional disease the most frequent cause is lack of cleanliness, or the use of an irritant cleanser after defecation. Printer's ink, I believe, is a frequent irritant that is commonly applied in newspaper form, more commonly than we think. Vaginal discharges frequently are allowed to come in contact with the anal region and are also next in frequency the most common cause.

To treat the pruritus successfully the physician must caution the patient to use a high grade toilet paper and to keep the anal regions absolutely clean. For local treatment carbolic acid heads the list of useful applications and may be applied in various forms. Personally, I prefer a modification of Bronson's "antipruritic oil," as follows:

R Acid. carbolici, 0.5 drachm;
 Liq. potass, 1 drachm;
 Ol. lini, 1 drachm.

If the mucous membrane be much abraded cauterizing lightly with silver nitrate and following up with a bland ointment will be found all sufficient. A partial stenosis of the rectum and consequent constipation is readily overcome by dilating the sphincter. This I find most easily accomplished by large rubber bougies. Olive oil is the best treatment I have been able to find for the most common forms of constipation, and its use will be found to exert a most soothing effect on the anal mucous membrane, when thus taken internally. Of course, the causative disease, if any, must receive proper treatment, but then in treating the symptom, pruritus ani, the foregoing suggestions will be found efficacious.

Therapeutical Notes.

Treatment of Papillomata of the Skin.—In the case of a young girl, eleven years of age, who had been annoyed for three years by a large number of warts upon her hands and lips, which returned even after removal by Paquélin cautery, Tinel, of Rouen, ordered magnesia 0.60 gramme (or grain x) daily. In addition as a daily local application he gave the following:

R Acidi acetic, 1 gramme;
 Chlorali hydrati, 1 gramme;
 Acidi salicylici, 4 grammes;
 Etheris, 4 grammes;
 Collodii, 15 grammes.

M

At the end of one month all the warts disappeared, leaving no trace whatever.

Treatment of Rheumatismal Conjunctivitis.—Desmons (through *Le Nord médical*, April 15, 1906) describes rheumatic conjunctivitis as a form characterized by enormous œdema and intense congestion. It is distinguished from ordinary catarrhal inflammation, by the intense pain, by its duration, and by its disappearance under the ordinary antirheumatic remedies. Astringents should not be applied. It is sufficient to give the patient sodium salicylate in full doses, and the condition progressively subsides. The only local treatment advised is simply boiled water or a solution of boric acid, applied warm, upon small compresses, which should be kept warm. A few drops of cocaine hydrochloride in boric acid solution may be instilled morning and evening.

Santonin for the Lightning Pains of Locomotor Ataxia.—Bricage (*Journal de médecine et chirurgie pratique*) calls attention to the value of santonin in tabes. M. Collêt had given 0.30 to 0.45 grammes (or grain v to vii) divided into three doses during the day. And this as the rule can be continued for weeks without inconvenience. However, as there are exceptional cases in whom 0.10 to 0.20 gramme (grain $1\frac{1}{2}$ to iii) have produced toxic accidents, it would be prudent not to go beyond this dose, or to commence with a small quantity. In the dosage mentioned 0.15 to 0.30 gramme (grain iiss to v) the san-

tonin quickly quiets the lightning pains and the result is continued after cessation of the remedy. The feeble toxicity of santonin permits its prolonged use when required over a period of more than two months. It is remarkable that santonin also affords relief in the laryngeal crisis of tabes. On the contrary, it is of no value in ordinary neuralgias, or in sciatica.—*La Tribune médicale*, April 7, 1906.

The Applications of Continuous Currents of Oxygen Gas in Gynæcology.—Dufour (*Gazette de gynécologie*, April 1, 1906), of Brussels, refers to the results obtained by Thiriar in various forms of infections, such as anthrax, suppurative arthritis, phlegmon, etc., by currents of oxygen gas. It appears evident that oxygen is a valuable antiseptic, and that it acts in a three fold manner (1) on the microbes; (2) on the toxins; and (3) upon the means of defense of the organism. In gynæcology, the application is very simple. It is only necessary to introduce a double catheter, or flexible rubber tube with a return current, and to make the attachment to a rubber tube connected with a reservoir filled with oxygen, so that the gas may pass continuously for about eight hours each day. These applications are made daily until the disinfection of the uterine cavity is completed. Examinations of the discharge will demonstrate the action of the gas, the leucocytes resume their normal appearance, phagocytosis is more marked, and there is progressive diminution of the microorganisms until the discharge is sterile; unless gonococci are present, which absolutely resist the action of oxygen. The tendency to metrorrhagia is arrested, and metritis yields good results, after the disappearance of the staphylococci and streptococci.

Camphor in the Treatment of Pulmonary Tuberculosis.—Volland (*Therapeutische Monatshefte*, February, 1906), in a case of cardiac dyspnoea, found that hypodermic injections of a syringeful every ten minutes of camphorated oil afforded great relief. He was led to try the same means in cases of pulmonary tuberculosis in which the heart is usually weak. In fact, for the last eight months he has given all of his tuberculosis patients a daily dose of camphorated oil (ten per cent.). General improvement was observed, and as one result, the night sweats, which depend greatly upon cardiac weakness, were overcome. The injections are not attended by any kind of inconvenience, beyond a trifling pain, in some subjects, at the moment the injection is made. The dose recommended is from two to four Pravaz syringefuls of the oily solution, taken in one or two injections each day. Smaller doses have very little effect. (The oleum camphoratum of the *Pharmacopœia germanica* is made by dissolving one part of camphor in nine parts of olive oil. The camphor liniment of the *United States Pharmacopœia*, however, contains 20 parts of camphor with 80 of cottonseed oil. The doses given, 20 minims, of the ten per cent. preparation (sterilized) should be used with caution at the beginning and the effects carefully observed.)

The Role of the Lymphatic System in Rabies Canina, Especially in Relation to the Use of Antirabic Vaccine.

The propagation of the virus of rabies by the lymphatics has been proved in well established manner. Also the truth that the disease can be communicated through the blood (by injection and by contact wound). The possibility, however, of its transmission by the route of the lymphatic system is still in dispute. In support of this hypothesis and in favor of the reality with which the virus is capable of being propagated. It is also known that after but one or several inoculations found it to be virulent after the axillary glands were taken from the remains of a late human who died of rabies. Klemperer, however, not regarding these facts as absolutely conclusive, undertook to settle it experimentally. To elucidate the question, he inoculated the lymph glands in various animals. As it is impossible on account of the small size of these glands in these animals to make an injection into the normal lymphatic, he selected glands which had already become pathologically hypertrophied by experimentally produced rabies. One of the animals died with rabies three weeks after the inoculation, the others all died with tuberculosis. The single inoculation did not, however, absolutely prove that the virus was propagated by the lymphatics, because in the glands there are also nerve filaments which can serve as conductors in the same manner as the nerves of the skin, the muscles, or the other tissues. The question of transmission is an important one from a theoretical point of view, because if the rabie virus is propagated almost exclusively by the peripheral nerves, it is opposed to the Pasteur method of vaccination, as in this the virus is especially absorbed and transmitted by the way of the lymphatic system. It is the

question of whether it goes on between these peripheral nerves on their way to the central nervous system by means of trunks, which must decide the question of the treatment and the fate of the patient. The author remarks, in conclusion, that if the transmission of the antirabic vaccine by the route of the blood and of the lymphatics is not admitted, it would logically follow that, at least in the graver cases and those which come only late under treatment, it is not in the region of the flank that the vaccinating injections should be made, but in the regions situated the nearest to the wound.

These questions are raised in horses, such as the face or the neck. One would also be justified, in certain cases, where quick results are desired, to direct the injections, or vaccinations, into the lymphatics of the wound or immediately adjacent to it.

The Remarkable Effects of Electric Currents of High Frequency When Applied to Malignant Growths of the Skin.

The malignant growths of the skin are very numerous, regarded by surgeons generally, and have usually been reported by Riviere, by Fournier, by Eschallé which illustrate the remarkable curative effect of the application of electric currents of high frequency, producing sparks, and heat. (Journal Dermatol. et Syph., 1900, the

notes of two very instructive cases in which complete restoration to the normal was obtained. Case I was a man who enjoyed good health, except that he had slight arteriosclerosis. He also had a violet colored, bean shaped excrescence upon the right temple, just at a point where it was subject to irritation by the hat band. This slowly but steadily increased in size, the surface became bosselated, and the skin was so thin that it bled easily. Between the lobules of the growth there was a fissure from which exuded a little sanious discharge. Surrounding the growth was a slight erythematous areola. Pressure with a finger caused diminution of size, but the tumor resumed its original form when the finger was removed. A surgeon refused to operate and advised against interference. Doumer used a special electrode (the stylet electrode), connected with the pole of Oudin's resonator, yielding sparks of from 3 to 4 millimetres. The tissues of the growth, under the shower of sparks, showed the effects of cauterization, and a large drop of blood appeared on the surface. The seance lasted about two minutes. One week later the patient was examined. The growth was observed to be shrunken and covered with a parchment like layer, which was even horny in some places. The treatment was then repeated. A moist compress was applied the day before the third and last application, one week later. Some weeks afterwards the crust had fallen off, leaving a healthy skin, except a single point of redness, which it was believed would disappear of itself. As the patient had not returned two months later, it was taken as evidence of permanence of the result. Case II was a man, fifty years of age, having a tumor of rather rapid growth near the end of the left eyebrow. It was round, red, depressible, and without pain. It had existed for two years altogether, but for the preceding six months it had taken on a more rapid growth, and the color had become more vivid red. The surface bled upon the slightest touch. The x rays were at first applied and produced some amelioration, but the progress was found to be too slow. The treatment of Riviere was then substituted with sparks of high frequency. As in the preceding case the first application lasted two or three minutes, and caused rather severe pain. One week later it was observed that a hard crust had formed over the entire surface. A second application was then made. Two weeks later the tumor was found to be much reduced in size, and the crust was on a level with the surrounding skin. Six weeks after the first treatment, the patient was again seen, and it was observed that the crust had fallen off and left an absolutely normal skin, without the least depression. The patient has been seen several times, and in the year that has elapsed no sign of disease has been found. The curative effects were attributed not to the oscillations of the currents which produce the sparks, but rather to the chemical and perhaps the thermic effects to which they give rise. Possibly the exaggeration of the cellular metabolism produced by the electricity may also have aided in the result.

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OUR CARE OF THE INSANE.

There is much instructive and suggestive matter in the last annual report of the State Charities Aid Association to the New York State Commission in Lunacy, dated November 1, 1905, but only recently published. In the first place, it is not often that a reporting organization deals so frankly with its relations toward the authority to which it reports. This frankness is certainly wholesome and worthy of all encouragement. The two bodies are of course at one in their desire to do what is best for the insane of the State; if at times they differ as to what is most expedient, a free handling of their differences can hardly fail to conduce to ultimate unanimity.

It is gratifying to learn that the total number of inmates of the thirteen State hospitals (not including Matteawan and Dannemora, which are for criminals) on October 1, 1905, was only 501 greater than on October 1, 1904, an increase smaller than that of any other year since 1881 and smaller than the average annual increase for the last thirty years. But, says the report, it can hardly be expected that the rate of increase of the insane that has prevailed for thirty years has been permanently arrested because one year shows a decrease, for such decreases have occurred before, but have usually been followed by an increase in the following year.

Nearly all the hospitals are still overcrowded, and the report properly expresses regret that most of the new buildings should be those of hospitals in the middle and western parts of the

State, although the overcrowding is greatest in those of the southeastern part, "where practically nothing is being done to provide for the insane of the metropolitan district, for whom additional accommodations are so sorely needed." Furthermore, as hardly any new land has been acquired for the hospitals in connection with which new buildings are in course of construction, the ratio of land to patients is becoming much less than it should be.

The care of persons who have been discharged from the hospitals is a matter in which hardly anything has yet been done, though in many countries it has long been carried out very efficiently. Worse even than this is our almost entire failure as a nation to provide for the proper return to their homes of insane immigrants deported under the law. Of course this is not a State affair, and on that account it is broached with diffidence in the report, but it is treated of most forcibly, and it is hardly conceivable that the national government will turn a deaf ear to the association's recommendations. It must not be supposed that the report deals only with defects; on the contrary, it records many things of which the State may well be proud, and all that is contained in it is creditable to the association and in the highest degree worthy of public attention.

THE SPREAD OF LEPROSY AND PLAGUE BY INSECTS.

We are indebted to Dr. E. S. Goodhue, a government physician of Hawaii, for information concerning recent investigations carried on by his brother, Dr. W. J. Goodhue, medical superintendent of the Molokai Leper Settlement, of the part played by insects in the diffusion of the *Bacillus lepræ*. The account was to be made public on the 8th of May in a report to the Hawaiian Board of Health. We learn from the gentleman first mentioned that the following statements will appear in the report:

We have been sectioning mosquitoes taken from various leper houses, but until last June without any apparent success. At that time it appeared that we had isolated bacilli in these series of experiments, but, owing to the technique employed, it was impossible to confirm this. . . . This method of research was then abandoned. . . . Mosquitoes were caught at random in leper houses, being captured with a net or sterile test tube, and the same subjected to a vapor of ether, when the mosquito became unconscious and was easily caught up with sterile forceps and placed under the dissecting microscope. . . . After repeated failures and the constant reexamination of fresh specimens, success has come as far as demonstrating the *Bacillus lepræ* in the female mosquito (*Culex pungeus*). . . .

all insects, among them, I have considered the possible injury to the system by the common bedbug (*Cimex lectularius*). I believe that the insect is more of a pest to the system of human beings than the great harmful following *Phlebotomus*. The bedbug's mission is to suck blood from its victim, and during the time of its attack, and, possibly, the bed and bedding used in a room become infected, and the type is not so thoroughly exterminated by these means as the common domestication and domestication.

Dr. Coudert's observations concerning the part played by the bedbug in the dissemination of plague, certainly deserve careful attention. If his opinion is supported by further investigation, that repulsive insect must be added to the list of those that should be exterminated for other reasons than their character as a nuisance. Speaking of the bedbug from another point of view, that of its possible part in spreading the Plague, Dr. Coudert, quoted by Lieutenant Colonel W. B. Bannerman, M. D., of the British Indian Medical Service (*Journal of Hygiene*, April), says: "If such an insect were crushed and the skin scratched by nails soiled with its blood it contained, infection might readily occur." Colonel Bannerman's article, entitled *The Spread of Plague in India*, contains an excellent summary of experimental work by various workers concerning the agency of insects in conveying the disease. Different degrees of activity are attributed by him to the common fly, the ant (*Monomerium vastator*), the flea, and the bedbug. As regards the flea peculiar to the rat (*Xenopsylla Pulex pallidus*), it has been found that, when hungry, it does not hesitate to attack man.

SUDDEN DEATH IN INFANCY.

There has lately been a little discussion in the *Presse médicale* concerning the cause of sudden death in infants. M. Maurice Perrin, of Nancy, who reports a case and mentions a number of others that are on record, expresses the opinion that the usual cause of death is the pressure effect of a hypertrophied thymus. In that journal for April 10, 1900, is a letter from M. Hérard, who rebuts the idea that the thymus is at fault and directs attention to his own inaugural dissertation, *De la mort subite de l'enfant*, written in 1847, in which he maintained that spasm of the glottis was the cause of death. This opinion he still holds.

On the strength of sixty post mortem examinations of infants that had died of various diseases he affirms that the thymus varies in volume and weight according to the child's state of nutrition: plump and robust children, he says, have a large thymus, but in the emaciated and weakly the organ is small. This variation is ob-

served even in cases of so called thymic asthma (the existence of which he denies). He thinks that the theory of laryngeal spasm is supported by the evident neurotic character of the fatal attacks, which may be but a repetition of others that have gone before, and by the fact that, like other convulsions, this spasm of the glottis runs in families. As to this latter point, M. Perrin had alluded to Haushalter's report of the sudden death of nine children in one family after a sort of coma of very brief duration.

It is probable that no one morbid condition is chargeable with sudden death in infancy. If our memory is not at fault, Virchow, some years ago, expressed the opinion that congenital stenosis of the aorta often played a part in the ætiology, but perhaps it would be quite as erroneous to attribute all sudden deaths of infants to that vice of conformation as to hypertrophy of the thymus. There is no single pathological state that we expect to find as the cause of sudden death in adults; it may be due to any one of a great number of morbid conditions. In the case of children the range of possible causes is probably not so extensive, for they are practically exempt from many of the degenerative and other processes that invite a sudden cessation of vital functions. But that does not mean that we must consider only one departure from normal structure or function as the sole cause of sudden death in infancy.

THE PATHOLOGY OF TERROR.

The sufferings of a condemned criminal have recently ended in a condition not without curious medical interest. A miserable man spent twenty-two months in the death chamber at Sing Sing, and during this time saw nine of his fellow convicts led out to execution in the electric chair. A new trial has now resulted in the commutation of his sentence to a term of imprisonment. At the time of his first conviction his hair was black, and although but thirty-one years old, he is now said to look at least fifty, and his hair is perfectly white.

Cases of rapid senescence and blanching of the hair as the result of terror are happily rare in this age. A famous historical example is afforded in the person of the beautiful and unfortunate queen, Marie Antoinette. Landois has recorded the case of a man whose hair became gray in a single night during an attack of delirium tremens. There are other remarkable effects produced by terror, of which there have been examples during the recent fatal seismic catastrophe in San Francisco. A number of cases of tempo-

rary aphonia and insanity have been reported, and for months to come there will doubtless be among the inhabitants many sufferers from the less serious nervous ailments. Similar phenomena, probably on account of the greater nervous instability of the Latin races, were more common after the great earthquake at Lisbon in 1755, as is seen in contemporary accounts.

Beaumont's classical experiments on Alexis St. Martin demonstrated the fact that the normal secretion of the gastric juice was arrested by fear. Vomiting may be produced by extreme horror. Relaxation of the sphincters of the rectum and bladder, with involuntary escape of the fæces and urine, is a common occurrence among troops going into battle for the first time, and this bit of repulsive realism has been utilized by Zola with literary effectiveness in his vivid description of the horrors of the Franco-Prussian war, in his *La Débâcle*. Fear is also a potent factor in the ætiology of well defined pathological conditions, notably in the convulsions of children, in chorea, and in exophthalmic goitre.

SEASICKNESS.

Attacks of vertigo may be repeated during a period lasting for hours or days, and to that condition Dr. S. Weir Mitchell applied the name status vertiginosus nearly thirty years ago. Personal peculiarities obviously have much to do with both vertigo and the allied condition of seasickness. In vertigo we have a sense of defective equilibrium accompanied by subjective feelings of motion of external objects, of the body itself, or of the contents of the cranium. In seasickness the victim knows only too well that the sense of defective equilibrium has a real foundation in fact, and that his feelings have now an objective, in place of a subjective, basis. Various morbid conditions of the organ of hearing may cause vertigo, and it is said that deaf mutes seem to have lost the power to be made vertiginous by rotation and do not suffer at sea. Vertigo may even be produced by suddenly injecting a stream of moderately cool water into the external auditory canal.

Recently, a German naval surgeon, Dr. Mixius (*Militärärztliche Zeitschrift*, 1906, No. 2), has published a comprehensive and to some degree novel view of the pathology and some practical remarks upon the treatment of seasickness, which, according to him, is a disturbance primarily of our capacity to recognize and maintain our spatial relations to surrounding objects. It is a result of the continued irritation, due to the ship's movements, of the centre of maintaining the somatic

equilibrium. The special phenomena pertaining to the abdominal cavity are very important and require further study. The symptoms in general may be looked upon as the consequences of the continued disturbances of equilibrium and the resulting fatigue or exhaustion of this centre in the cerebellum.

Prophylactic measures against seasickness, though not uniformly or entirely successful, are generally of benefit. The regulation of the diet and the daily use of purgatives for a week before sailing have been approved by experience. Moderation in eating and drinking is also recommended, particular care being taken not to overload the stomach for a few days at least after beginning the voyage. There is another means, specially mentioned by Mixius, and that is to get accustomed as soon as possible to the motion of the ship. A persistent horizontal or recumbent posture is not advised, because the body is then less exposed to the influences that disturb the equilibrium, and consequently fails to become accustomed to them. Experience has shown that those persons who, by sheer force of will, maintain the bodily activity will the soonest overcome the tendency to seasickness.

THE ALCOHOL DRESSING.

Perhaps the old evaporating lotion, though often prescribed more as a placebo than with any great confidence in its virtues, was more effective than was supposed, even if in a different way. Pfuhl (*Zeitschrift für Hygiene und Infektionskrankheiten*, xlvii, 3; *Berliner klinische Wochenschrift*, February 12th) recommends an alcohol dressing both in open wounds of the soft parts and in contusions. The antiseptic action of alcohol, he remarks, is heightened by the addition of water up to forty or fifty per cent., but is reduced by further dilution. He uses it in a fifty per cent. dilution for open wounds, and in the strength of from ninety to ninety-six per cent. when the skin is unbroken. He leaves it an open question whether it operates as a disinfectant or by fortifying the natural powers of resistance.

THE FILTRATION OF CRYSTALLOIDS AND COLLOIDS THROUGH GELATIN.

A gelatin filter is made by heating an ordinary Pasteur-Chamberland candle and, under pressure, passing a solution of gelatin through it as it cools. The filter thus prepared is drained and kept on ice until required for use. Gelatin filters may be used dry or wet; but on drying the gelatin shrinks so that the passages are increased, and when such a filter is employed there is an irregular flow of

fluid and the crystals are absorbed enough to permit of being conveyed into a wet filter. The wet filter, consequently, are to be preferred. Experimenting with the filtration of various fluids through the wet gelatin filter, Craw (*Proceedings of the Royal Society, March 27th*) finds that there is a difference in the behavior of crystalloids and of colloids as these solutions are passed through the filter under pressure, but that the old idea that crystalloids pass such a filter unchanged and that colloids are retained is no longer tenable. The molecule sodium chloride, a typical crystalloid, is largely retained by the filter. That is, on passing a solution of 0.85 per cent. of sodium chloride, called 100, through the gelatin filter at low atmospheric pressure and at a temperature of not less than the amount of the salt contained in the first, fourth, and fourteenth fractions of four gillie centimeters were 47.1, 80.5, and 90.2, respectively. Similar results were obtained with potassium iodide and butyric acid.

Colloidal substances, such as ferric hydrate, serum, and soluble starch, are also retained by the gelatin filter and to a greater extent than the crystalloids. As filtration proceeds the retention of crystalloids gradually decreases, but that of the colloids increases until none comes through the filter. The simultaneous filtration of two substances, such as butyric acid and sodium chloride or iodide and potassium iodide, influences the permeative power of each substance. Variations in the strength of the gelatin solution of which the filter is made influence the permeability of the filter, and the addition of a substance like formic aldehyde to the gelatin renders the filter less permeable. Variations in the pressure cause changes in the permeability of the filter, and substances such as neutral red and iodine, which stain the gelatin, give rise to increased retention on diminishing the pressure. These facts may be accounted for by mechanical factors, but the author believes that the chemical relations between the gelatin and the substances filtered must be taken into account. The most satisfactory view is that the action of the gelatin on the substances filtered is an example of adsorption.

The experiments reported by Craw were suggested by the behavior of the toxine for erythrocytes caused by the filter, and that of its specific antitoxine. In filtering mixtures of the hemolysin and the antilysin it was found that the former passed through the gelatin filter readily, but that the latter was retained. Further experiments showed that a definite quantity of the antilysin did not completely neutralize a similar quantity of the lysin, but that the lysin took up the antilysin much as a tissue takes up dye; in

other words, the antilysin is adsorbed by the lysin. These results controvert the views held by Ehrlich, on the one hand, and by Arrhenius and Ostwald, on the other hand, and are in harmony with the theories of Landsteiner and Bordet.

THE SUTURE TREATMENT OF FRACTURES OF THE PATELLA

Wiring the patella for the purposes of coaptation and immobilization in cases of fracture seems to be less popular with the profession than it was a few years ago. The subject was lately discussed at a meeting of the German Surgical Society apropos of a report by von Brunn, of Tübingen, concerning the frequency with which he had observed that the silver wire used in the procedure gave way. It was not the fault of the knot, he said, but the wire itself broke. According to his x ray pictures, the wire remained intact until bony union had taken place in only one out of eleven cases. In four others good results were obtained, but in them the wire had either broken or cut into the bone.

Krönlein expressed the opinion that the non-operative treatment had been too much neglected of late years. With him it had given excellent results in cases in which there was not excessive separation of the fragments. Küster recommended sutures passed through the skin, without any free opening into the joint. Riedel called attention to his method of wrapping the fragments together with repeated turns of very large catgut passed through the skin above and below and carried around the bone by means of special needles. Bardenheuer agreed with Krönlein, saying that he was in every respect satisfied with the results of the nonoperative treatment. The remark was added by von Brunn that the complete anatomical restitutio ad integrum was not necessary to the restoration of a useful limb.

SALERNO.

In the May number of the *Cleveland Medical Journal* there is an exceedingly interesting article by Dr. Charles J. Aldrich, of Cleveland, entitled *A Day in Salerno*. The fame of the old medical school of Salernum does not escape the attention of even the most superficial student of the history of medicine, and the historian of the present day does not slight it, but it is sad that we can think of it only as a thing of the past. "Alas," says Dr. Aldrich, "the Salerno of to-day contains not a single book or manuscript of its ancient libraries, not a stone of its hospitals to commemorate its glorious past. Its academy is not a ruin, no, nor even a memory, but exists only as a record of achievement, an ancient story of departed greatness."

News Items.

NEW YORK CITY AND STATE

The Geneva (N. Y.) Medical Society.—At a meeting, held on Thursday, May 3rd, the programme included a paper on Mechanical Vibration, by Dr. C. C. Lytle.

Change of Address.—Dr. Karl H. Goldstone, to 246 West One Hundred and Twenty-first Street.

Dr. W. G. Eynon, to 677 East One Hundred and Thirty-sixth Street.

The New York Medical College and Hospital for Women.—The commencement exercises of this college will be held at the Astor Gallery of the Waldorf-Astoria, on Monday evening, May 14th, at 8.30 o'clock.

The Quiz Medical Society of New York City will hold its tenth annual meeting at the University Club, on Saturday, May 19th, at 7 p. m. The paper of the evening, on The Diagnosis of Renal Calculus, will be read by Dr. Alfred T. Osgood.

The Buffalo Academy of Medicine.—At a meeting of the *Section in Medicine*, held on Tuesday, May 8th, the programme included the following titles: The Administration of Iron, by Dr. Eli H. Long; Dropsy, by Dr. Albert T. Lytle.

The Glens Falls (N. Y.) Medical and Surgical Society.—The programme for a meeting, held on Thursday evening, May 3rd, included a paper entitled Lessons from My Obstetrical Practice of 1905, by Dr. S. J. Banker, of Fort Edward, N. Y.

The Clinical Society of the New York Post Graduate Medical School and Hospital.—A meeting of the society will be held on Friday evening, May 18th. The following paper will be presented: Medicine and Surgery in the Late Russo-Japanese War, illustrated with numerous stereopticon views, by Dr. Charles Lynch, Captain and Assistant Surgeon in the United States Army, representative of the Medical Department of the United States Army with the Japanese forces in Manchuria.

The German Medical Society of New York.—At the next meeting of this society, to be held at the New York Academy of Medicine, on Tuesday evening, May 15th, Professor Alfred Dührssen, of Berlin, the promoter of the vaginal route for caeliotomy, and the originator of vaginal Caesarean section, is to be the guest of the society, and will read a paper on Modern Problems in Obstetrics and Gynecology, which will be discussed in German and English. Professor Dührssen speaks English well.

A Memorial to the Late Dr. Alexander J. C. Skene was unveiled on one of the mounds west of the plaza at the main entrance to Prospect Park, Brooklyn, on Saturday afternoon, May 5th. The monument was erected by private subscription, secured under the direction of the Skene Monument Association. The bust, which is of bronze, three times life size, rests on a pedestal of sandstone. A description of this monument was printed in our issue for December 9, 1905. An address on Dr. Skene's life was delivered by Dr. A. Jacobi, of Manhattan.

The New York Pathological Society.—The programme arranged for a meeting, held on Wednesday evening, May 9th, was as follows: (a) A Case of Cyst of the Appendix; (b) Some Unusual Breast Tumors, by Dr. D. S. D. Jessup; Pathological Anatomy of the Thyroid Gland in Graves's Disease, by Dr. James Ewing; Hydrophobia: (a) Its Cause, by Dr. Anna W. Williams; (b) A New Staining Method Used in Its Study, by Dr. Ira Van Gieson; (c) Infectivity of Tissues at Different Stages of the Disease, by Dr. Daniel W. Poor.

The Medical Association of the Greater City of New York will hold its next meeting at the New York Academy of Medicine, on Monday evening, May 14th. The following programme has been arranged for the occasion: Rabies and Its Aetiology, by Dr. Ira Van Gieson; Brain Tumors, by Dr. Arthur C. Brush; Cerebellar Fits and Cerebellar Seizures, by Dr. Charles L. Dana; Aphasia, by Dr. Edward D. Fisher; Discussion (speakers limited to five minutes) by Dr. William M. Leszynsky, Dr. Calvin F. Barber, Dr. William Broadbuss Pritchard, Dr. J. Ramsay Hunt, Dr. L. Pierce Clark, Dr. M. G. Schlapp.

Personal.—Dr. Smith Ely Jelliffe, of the editorial staff of the *New York Medical Journal*, sailed for Europe on April

26th. During the summer months he will engage in certain special investigations in neurology and psychiatry, in Munich, and afterward will visit several of the chief cities of Europe on business connected with the editorial conduct of the *Journal*.

As was intimated in our issue for April 28th might be the case, Dr. Charles W. Pilgrim, of the Hudson River State Hospital, has been appointed to succeed Dr. William Mabon as president of the State Commission in Lunacy. Dr. Mabon resigned this office to accept the position of superintendent of the Manhattan State Hospital on Ward's Island.

Relief for San Francisco Physicians.—We are in receipt of a letter from Dr. Winslow Anderson, of the *Pacific Medical Journal*, San Francisco, in which he says that he has opened for business at 1914 Pacific Avenue. He further says: "Your very kind letter has been gratefully received. I thank you from the bottom of my heart for your words of sympathy. We lost everything, but as soon as we can borrow a printing press we shall get out the May edition of the *Journal*. Over five hundred physicians here are destitute, as everything in the world they had has gone up in smoke. I had everything arranged to go to Boston and to Europe this year, but now I have not means enough to pay my fare to New York." Upon receipt of this communication Mr. Morris K. Jessup, president of the New York Chamber of Commerce, was seen, and he said that he would immediately telegraph Mr. James D. Phelan, chairman of the Citizens' Committee of San Francisco, \$5,000 out of the fund of \$778,000 raised by the chamber for the relief of the San Francisco sufferers, said \$5,000 to go for the relief of the stricken medical fraternity of San Francisco and their families.

Medical Relief Committee.—To the Members of the Medical Profession of New York City (Manhattan and Bronx): The undersigned, a committee appointed by The New York Academy of Medicine, the Medical Society of the County of New York and the County of Richmond, appeal to the members of the medical profession of this city for funds to help our medical brethren of California, who have suffered losses in the recent great disaster. The large sums of money already raised by the public must be spent in providing food, shelter and the necessities of life. It is reported that over five hundred physicians in San Francisco alone have lost their homes and all their medical and surgical equipment. They need direct financial help in order to enable them to take up their work again, and we believe that they will be more willing to accept this help from their medical brethren. We ask, therefore, that every physician send to the treasurer some contribution, large or small, and that it be sent at once. The money will be received and acknowledged by the treasurer, but the list of contributors will not be published. Arrangements will be made to have the fund when completed sent to a properly authorized person in California, probably one designated by the California State Medical Society. A final report will be made and sent to each contributor. The work in many other counties is well under way, the Societies of Kings and Queens-Nassau have organized and are raising funds. Checks should be made out and money sent to Dr. Charles H. Richardson, Treasurer, Medical Relief Committee, 336 Lexington Avenue, New York city. Charles L. Dana, M. D.; John H. Huddleston, M. D.; and Reginald H. Sayre, M. D., for the New York Academy of Medicine; Floyd M. Crandall, M. D.; John Van D. Young, M. D.; Charles H. Richardson, M. D., for the Medical Society of the County of New York; George P. Jessup, M. D.; Charles E. Pearson, M. D., for the Richmond County Medical Society. John H. Huddleston, M. D., secretary, 126 West Eighty-fifth Street, New York City.

Society Meetings for the Coming Week:

MONDAY, May 14th.—Medical Association of the Greater City of New York; Society of Medical Jurisprudence, New York; New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medicohistorical Society (private); New York Ophthalmological Society (private); Gynecological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Corning, N. Y., Medical Association.

TUESDAY, May 15th.—New York Academy of Medicine (Section in General Medicine); Buffalo Academy of Medicine (Section in Pathology); Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of

Medicine. Medical Society of the County of Kings, N. Y., temporary meeting at Midwood.
Wednesday, May 16th.—New York Academy of Medicine (Section on Dermatology and Syphilology); New York Society of Dermatology and Syphilology; Surgery (Section on Dermatology); Otolaryngology (New York Academy of Medicine); Medical Society, New York; Philadelphia Medical and Surgical Society of New York (Section on Dermatology); Academy of Medicine (Section on Dermatology).

Thursday, May 17th.—New York Academy of Medicine, Section on Dermatology and Syphilology; New York Society of Dermatology and Syphilology; Medical Society of New York (Section on Dermatology); St. Louis, Atlanta Society of Medicine.

Friday, May 18th.—New York Academy of Medicine (Section on Dermatology and Syphilology); New York Society of Dermatology and Syphilology; Medical Society, New York; Philadelphia Medical and Surgical Society of New York (Section on Dermatology); Academy of Medicine (Section on Dermatology); College of Physicians and Surgeons, New York.

Infectious Diseases in New York:

As reported to the Bureau of Health Statistics, for the following categories of new cases and deaths recorded for the week ending May 8, 1906:

| | May 8, 1906 | | Averages | |
|----------------|-------------|--------|----------|--------|
| | Cases | Deaths | Cases | Deaths |
| Scarlet fever | 18 | 7 | 22 | 8 |
| Diphtheria | 10 | 1 | 9 | 1 |
| Croup | 10 | 1 | 9 | 1 |
| Whooping cough | 1,111 | 30 | 1,111 | 30 |
| Measles | 231 | 21 | 237 | 13 |
| Smallpox | 1 | 1 | 1 | 1 |
| Polio | 1 | 1 | 1 | 1 |
| Typhoid fever | 375 | 141 | 475 | 175 |
| Other | 1 | 1 | 1 | 1 |
| Total | 2,489 | 350 | 2,697 | 312 |

PHILADELPHIA AND THE MIDDLE STATES

The Camden County (N. J.) Medical Society will hold a meeting at Cherry Hill, Woodbury, on Thursday, May 17th.

The State Hospital for the Feeble Minded and Epileptic to be located at Spring City, Pa., will be opened on May 15th.

The St. Francis Hospital (Philadelphia) added two new wards on April 30th. Dr. Samuel Wolfe delivered the address. The new wards will accommodate 100 patients.

The Board of Directors of the Medical Club of Philadelphia met on May 10th at Atlantic City, N. J. The members were entertained at dinner at the Hotel Commodore on May 11th.

The General Society of the Elizabeth (N. J.) General Hospital and Dispensary—A meeting of this society will be held on May 15th. Dr. J. C. Hubbard will deliver the address. The subject is "The Treatment of Neuralgia." The meeting will be held at the Hotel Commodore.

Philadelphia, Bryn Mawr and College for Graduates in Medicine.—The following summary represents the work done by the Philadelphia Dispensary during April, 1906: Patients examined, 113; new patients, 113; total visits to dispensary, 113.

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The Board of Physicians in California will meet on May 15th at the Hotel Commodore, New York. The meeting will be held at the Hotel Commodore.

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Ophthalmic Association. Tuesday, May 15th, Dermatological Society; Academy of Natural Sciences; North Branch, Philadelphia County Medical Society. Wednesday, May 16th, Section on Otolaryngology and Laryngology, College of Physicians; Association of Clinical Assistants of Wills Hospital; Franklin Institute. Thursday, May 17th, Section on Gynecology, College of Physicians; Section Meeting, Franklin Institute. Friday, May 18th, American Philosophical Society; West Philadelphia Branch, Philadelphia County Medical Society.

The Health of Philadelphia.—During the week ending April 27, 1906, the following cases of transmissible diseases were reported to the Bureau of Health:

| | Cases | Deaths |
|----------------|-------|--------|
| Scarlet fever | 216 | 27 |
| Diphtheria | 37 | 2 |
| Croup | 49 | 1 |
| Whooping cough | 79 | 19 |
| Measles | 10 | 5 |
| Smallpox | 411 | 8 |
| Polio | 55 | 6 |
| Typhoid fever | 124 | 74 |
| Other | 124 | 60 |
| Total | 16 | 0 |
| Scarlet fever | 11 | 3 |
| Diphtheria | 1 | 0 |
| Croup | 1 | 0 |
| Whooping cough | 4 | 2 |
| Measles | 1 | 0 |
| Smallpox | 20 | 0 |
| Polio | 1 | 0 |
| Typhoid fever | 24 | 26 |

The following deaths were reported from other transmissible diseases: Tuberculosis, other than tuberculosis of the lungs, 14; diarrhoea and enteritis under two years of age, 29. The total deaths numbered 587, in an estimated population of 2,489,000, corresponding to an annual death rate of 20.71 in 1,000 population. The total infant mortality was 140; under one year of age, 106; between one and two years of age, 34. There were 34 still births, 15 males and 19 females. There was no unusual meteorological phenomena recorded by the weather bureau.

BOSTON AND NEW ENGLAND

The Portland (Me.) Medical Club.—At a meeting, held on Thursday evening, May 3rd, Dr. Charles B. Witherle read a paper entitled "The Clinical Value of Determining Blood Pressure."

The Holyoke (Mass.) Medical Association.—The program prepared for a meeting, held on Tuesday, May 1st, included the following papers: Neuralgia of the Sciatic Nerve, by Dr. J. C. Hubbard; Facial Neuralgia, by Dr. G. A. Maxfield; Surgical Treatment of Neuralgia, by Dr. T. E. Cavanaugh.

The North Essex District (Mass.) Medical Society.—At a recent meeting of this society, held at Lawrence, the following officers were elected: President, Dr. W. J. Sullivan; secretary, Dr. C. F. Durant, of Haverhill; secretary-treasurer, Dr. M. D. Clarke, of Haverhill; corresponding secretary, Dr. R. S. Hamilton, of Newburyport.

The Eastern Hampden (Mass.) Medical Association held its monthly meeting at Springfield, on Thursday, May 3rd. Dr. Vincent J. Irwin, of Springfield, in the chair. Papers, which were followed by discussions, were read by Dr. A. O. Squier, of Springfield, Dr. G. H. Stetson, of Greenfield, Dr. W. A. Smith, of Springfield, and Dr. H. B. Perry, of North-

The New Hampshire Medical Society will hold its one hundred and fifteenth annual meeting at Concord, on Thursday and Friday, May 17th and 18th, under the presidency of Dr. Ferdinand A. Stillings, of Concord. On the 17th the *Association of Physicians and Surgeons* and the *New Hampshire Association of Military Surgeons* will each hold a meeting at Concord.

The Berkshire District (Mass.) Medical Society.—At the annual meeting of this society, held at Pittsfield, on Thursday, April 26th, Dr. Charles H. Richardson read a paper entitled "A Comparison Between European and American Hospitals." The election of officers resulted as follows: President, Dr. Alfreda B. Withington, of Pittsfield; vice-president, Dr. G. L. Rice, of North Adams; secretary, Dr. J. F. Adams, of Pittsfield; treasurer, Dr. W. L. Paddock, of Pittsfield; commissioner on trials, Dr. A. T. Wakefield, of Pittsfield; Dr. J. F. Adams, Dr. O. I. Brown, of North Adams, Dr. Homer Bushnell, of North Adams, Dr. A. T. Wakefield, Dr. Henry Colt, and Dr. I. S. [Name obscured]

The Mortality of Boston.—The number of deaths reported to the Board of Health for the week ending April 28th, was 225, as against 210 the corresponding week last year, showing an increase of 15 deaths and making the death rate for the week 19.72. The number of cases and deaths from infectious diseases was as follows: Diphtheria, 43 cases, 5 deaths; scarlatina, 47 cases, 1 death; typhoid fever, 5 cases, no deaths; measles, 95 cases, 2 deaths; tuberculosis, 48 cases, 30 deaths; smallpox, no cases, no deaths. The deaths from pneumonia were 37, heart disease 25, bronchitis 4, marasmus 3. There were 6 deaths from violent causes. The number of children who died under one year of age was 41; under five years of age 61; persons over sixty years of age 43; deaths in public institutions 61.

The Bristol South District (Mass.) Medical Society.—The programme arranged for the annual meeting of this society, held at Fall River, on Thursday, May 10th, consisted of a symposium on Gastric Ulcer, divided as follows: *Ætiology*, Dr. Annie C. Macrae; *Diagnosis*, Dr. Charles F. Connor; *Medical Treatment*, Dr. Mary W. Marvell; *Surgical Treatment*, Dr. John C. Munro, of Boston. The nominating committee reported as follows: President, Dr. J. H. Gifford; vice-president, Dr. G. de N. Hough; secretary and treasurer, Dr. A. J. Abbe; councillors, Dr. A. W. Buck, Dr. C. F. Connor, Dr. W. A. Dolan, Dr. G. de N. Hough, Dr. S. V. Merritt, Dr. S. W. Hayes, Dr. H. G. Wilbur, Dr. H. C. Allen; censors, Dr. S. W. Bowen, Dr. A. I. Connell, Dr. W. A. Dolan (supervisor), Dr. C. A. Pratt, Dr. A. P. Webber; commissioner on trials, Dr. George L. Richards; nominating councillor, Dr. G. de N. Hough, or Dr. A. W. Buck, alternate.

BALTIMORE AND THE SOUTH

The Richmond (Va.) Academy of Medicine and Surgery.—The programme for a meeting, held on Tuesday, May 8th, included the following titles: *Pathological Findings in Eclampsia and Hyperemesis*, by Dr. Greer Baughman; and *Treatment of the Toxæmia of Pregnancy*, by Dr. John F. Winn.

The Mortality of Baltimore.—The report of the health department for the week ending April 28, showed a total of 190 deaths, as compared with 212 for the corresponding week of last year, 202 in 1904, and 194 in 1903. The annual death rate in 1,000 of population was: Whole, 16.50; white, 15.60; colored, 21.27. The principal causes of death were: Typhoid fever, 3; whooping cough, 5; diphtheria, 1; influenza (la grippe), 1; consumption, 35; cancer, 7; apoplexy, 7; organic heart disease, 15; bronchitis, 3; pneumonia, 25; Bright's disease, 17; congenital debility, 9; lack of care, 6; old age, 1; suicides, 1; accidents, etc., 7. The following number of cases of infectious diseases were reported, as compared with the corresponding week of last year:

| | 1905. | 1906. |
|----------------|-------|-------|
| Smallpox | 0 | 3 |
| Diphtheria | 24 | 23 |
| Scarlet fever | 14 | 13 |
| Typhoid fever | 3 | 20 |
| Measles | 200 | 12 |
| Mumps | 2 | 3 |
| Whooping cough | 4 | 8 |
| Chickenpox | 6 | 7 |
| Consumption | 17 | 11 |

CHICAGO AND THE WEST.

The Detroit College of Medicine.—The thirty-eighth annual commencement exercises will be held in the Light Guard armory, on the evening of Thursday, May 17th.

The Illinois State Medical Society will hold its annual meeting at Springfield, on Tuesday, Wednesday, and Thursday, May 15th, 16th, and 17th, under the presidency of Dr. H. C. Mitchell, of Carbondale.

The Iowa State Medical Society.—The annual meeting of this society will be held at Des Moines, on Wednesday, Thursday, and Friday, May 16th, 17th, and 18th, under the presidency of Dr. William Jepson, of Sioux City.

The Chicago Charity Hospital.—The directors of this hospital, which, so far as its capacity of thirty beds will permit, is free to the poor, have made an appeal for \$5,000 in aid of the hospital.

A Hospital License Revoked.—According to the *Chicago Record-Herald*, for May 4th, the mayor of Chicago, on the recommendation of a State home visitor for children, has

revoked the license of an institution known as the How Maternity Hospital and School of Midwifery.

Cheaper Diphtheria Antitoxine for Chicago.—The Memorial Institute for Infectious Diseases, established as a memorial for the son of Harold F. McCormick, has answered the appeal for cheaper antitoxine for diphtheria. The chief city medical inspector says that the institute now is supplying the city with antitoxine at less than half the price charged by the so called antitoxine trust.

The Medical Department of the Newberry Library, Chicago.—Arrangements have been completed for the transfer of this portion of the library, including, with the permission of Dr. Nicholas Senn, the Senn collection on medical history, to the ownership and management of the John Crerar Library. The collection will remain in its present location until the permanent building of the Crerar Library is completed.

The Cass County (Neb.) Medical Society held its annual meeting at Weeping Water during the week of April 27th; the following were elected officers for the ensuing year: Dr. J. A. Pollard, of Nehawka, president; Dr. B. F. Brendell, of Murray, vice-president; Dr. E. H. Worthman, of Louisville, secretary and treasurer; Dr. James B. Hungeate, of Weeping Water, delegate to the Nebraska State Medical Association. The next meeting will be held at Wabash.

Statement of Mortality in Chicago for the Week Ending April 28, 1906, compared with the preceding week and with the corresponding week of 1905. Death rates computed on United States Census Bureau's figures of midyear populations—2,049,185 for 1906 and 1,990,750 for 1905:

| | April 28, 1906. | April 21, 1906. | April 29, 1905. |
|--------------------------------|-----------------|-----------------|-----------------|
| Total deaths, all causes | 621 | 645 | 527 |
| Annual death rate in 1,000 | 15.80 | 16.40 | 13.80 |
| Sexes | | | |
| Males | 367 | 363 | 308 |
| Females | 254 | 282 | 219 |
| Ages | | | |
| Under 1 year of age | 124 | 119 | 121 |
| Between 1 and 5 years of age | 49 | 55 | 61 |
| Between 5 and 20 years of age | 37 | 55 | 32 |
| Between 20 and 60 years of age | 275 | 283 | 216 |
| Over 60 years of age | 136 | 133 | 97 |
| Important causes of death | | | |
| Apoplexy | 12 | 13 | 14 |
| Bright's disease | 47 | 35 | 42 |
| Bronchitis | 19 | 31 | 20 |
| Consumption | 51 | 75 | 83 |
| Cancer | 33 | 28 | 30 |
| Convulsions | 7 | 7 | 8 |
| Diphtheria | 4 | 11 | 6 |
| Heart diseases | 48 | 40 | 36 |
| Influenza | 6 | 9 | .. |
| Intestinal diseases, acute | 28 | 32 | 30 |
| Measles | 5 | 2 | 9 |
| Nervous diseases | 22 | 29 | 17 |
| Pneumonia | 117 | 123 | 74 |
| Scarlet fever | 11 | 13 | .. |
| Suicide | 8 | 5 | 8 |
| Typhoid fever | 9 | 10 | 3 |
| Violence (other than suicide) | 35 | 37 | 21 |
| Whooping cough | 2 | 1 | 27 |
| All other causes | 127 | 144 | 90 |

At the close of office hours on Saturday, April 28th, there had been 621 deaths from all causes reported, making a total of 2,547 for the twenty-eight elapsed days of the month. This is, with two exceptions, the greatest number of April deaths recorded during the last thirty years. In 1891, when the great pandemic of influenza was at its height, there were 3,450 April deaths recorded, and the annual death rate for the month was the highest ever reached—36.64 in a thousand of the population. The average April rate of the last thirty years has been 18.76, so that the rate of April, 1891, was nearly double or more than 95 per cent. higher than the average of the period. In April, 1903, there were 2,628 deaths reported, and the annual rate of the month was 17.06 in a thousand. With these two exceptions the total number of deaths reported in the month drawing to a close is the highest of record, although, of course, by no means the highest in proportion to population.

GENERAL

Mr. Saxlehner Resigns from the Proprietary Association.—We are informed by Andrew Saxlehner, proprietor of the Hunyadi János Natural Aperient Springs, Budapest, Hungary, that he has resigned his membership in the Proprietary Association of America.

The Association of American Physicians will hold its twenty-first annual meeting at Washington, D. C., on Tues-

C. Twichell, Saranac Lake; The Technique of the Opsonic Test, by Dr. H. M. Knighorn and Dr. D. C. Twichell, Saranac Lake; Studies on Immunity in Tuberculosis, III. Experiments with Lymph Gland and Bone Marrow Extracts of Immunized Animals, by Dr. E. R. Baldwin and Dr. J. Woods Price, Saranac Lake.

Clinical and Climatological Section.

Dr. Vincent Y. Bowditch, Boston, chairman; Dr. Edwin A. Locke, Boston, secretary. Address of the Chairman, Dr. Vincent Y. Bowditch, Boston; Report of the Committee Upon Clinical Nomenclature; Results of the use of the modified Turban method recommended at the meeting in May, 1905; Therapeutic Use of Tuberculin Combined with Sanatorium Treatment of Tuberculosis, by Dr. Edward L. Trudeau, Saranac Lake. Discussion opened by Dr. Lawrason Brown, Saranac Lake, Dr. E. R. Baldwin, Saranac Lake, Dr. Arnold C. Klebs, Chicago, and Dr. L. Rosenberg, Bedford Station, N. Y. The Treatment of Tuberculous Laryngitis with the Watery Extract of Tubercle Bacilli, with Remarks upon the Action of Specific Medication in the Treatment of Tuberculosis, by Dr. F. M. Pottenger, Los Angeles. Discussion opened by Dr. Karl von Ruck, Asheville. Review of the Work upon the Opsonic Index (Wright and Douglas) in Tuberculosis, by Dr. Nathaniel Bowditch Potter, New York. Discussion opened by Dr. L. Hektoen, Chicago, and Dr. Theobald Smith, Boston. Hematological Studies in Tuberculosis, by Dr. Arnold C. Klebs, Chicago. Use and Abuse of Pulmonary Gymnastics, by Dr. Charles L. Minor, Asheville. Discussion opened by Dr. Norman Bridge, Los Angeles, Dr. E. O. Otis, Boston, and Dr. Herbert Maxon King, Liberty. Diet in Tuberculosis, by Dr. Herbert Maxon King, Liberty; Statistics of Diet in Sanatoria for Consumptives, by Irving Fisher, New Haven. Discussion opened by Dr. Henry P. Loomis, New York, Dr. John W. Brannan, New York, and Dr. Sherman G. Bonney, Denver. Climate as a Factor in the Treatment of Tuberculosis, by Dr. F. I. Knight, Boston; The Relative Value of the Home Treatment of Tuberculosis, by Dr. Lawrence F. Flick, Philadelphia. Discussion opened by Dr. S. A. Knopf, New York, Dr. S. E. Solly, Colorado Springs, Dr. W. Jarvis Barlow, Los Angeles, Dr. C. F. McGahan, Aiken, S. C., Dr. T. D. Coleman, Augusta, Ga., and Dr. Charles Millet, East Bridgewater, Mass. A Suggestion in the Treatment of Hemoptysis, by Dr. Lawrason Brown, Saranac Lake; Manifestations of Syphilis in Connection with Tuberculosis, by Dr. John H. Pryor, Buffalo; What May be Accomplished in Apparently Hopeless Cases of Pulmonary Tuberculosis, by Dr. Sherman G. Bonney, Denver; A Contribution to Climatic Phthisiotherapy, by Dr. E. S. Bullock, Silver City, N. M.

Surgical Section.

Dr. W. W. Keen, Philadelphia, chairman; Dr. Robert G. LeConte, Philadelphia, secretary. The Surgical Treatment of Tuberculous Glands of the Neck, by Dr. Charles H. Mayo, Rochester, Minn. Discussion opened by Dr. Floyd W. McRae, Atlanta, Dr. W. L. Rodman, Philadelphia, and Dr. John H. Gibbon, Philadelphia. Tuberculous Peritonitis, by Dr. Richard Douglas, Nashville. Discussion opened by Dr. William Litterer, Nashville, Dr. Willis G. MacDonald, Albany, and Dr. Alexander H. Ferguson, Chicago. The Treatment of Tuberculosis of the Bones and Joints, by Dr. Joel E. Goldthwait, Boston. Discussion opened by Dr. A. T. Cabot, Boston, Dr. B. E. McKenzie, Toronto, Dr. W. R. Townsend, New York, and Dr. Joseph Bloodgood, Baltimore.

Section of Tuberculosis in Children.

Dr. W. P. Northrup, New York, chairman; Dr. R. G. Freeman, New York, secretary. Address of the Chairman, Study, Prevention, and Cure of Tuberculosis in Infants and Young Children, by Dr. W. P. Northrup, New York; Sources of, and Portal of Entry of, the Infectious Agents in Tuberculosis of Infants and Young Children, by Dr. A. Jacobi, New York; Protection of Infants and Young Children from Tuberculous Infection, from tuberculous parent in crowded environment—tenements, hospitals—after measles, whooping cough, influenza, etc., by Dr. John Lovett Morse, Boston; Treatment, by Dr. J. P. Crozer Griffith, Philadelphia; Arrest (Cure) of Tuberculous Processes in Infants and Young Children—Fresh Air—Seaside Hospitals, Dr. J. W. Brannan, New York. General discussion by Dr. T. M. Rotch, Boston, Dr. L. E. Holt, New York, Dr. Frederick Forchheimer, Cincinnati, Dr. E. W. Saunders, St. Louis, Dr. A. D. Blackader, Montreal, Dr. David Bovaird, New York, and others.

Pith of Current Literature.

THE BOSTON MEDICAL AND SURGICAL JOURNAL

May 3, 1906.

1. The Physician's Duty to His Fellow Practitioner and to Himself, By WALTER LINDLEY.
2. The Treatment of Joint Disease by Passive Congestion, By H. F. HARTWELL.
3. Some Ætiological Suggestions, By F. C. WELLMAN.
4. Supplementary Note on Spirochæta Found in Yaws Papules, By F. C. WELLMAN.
5. The Influence of Dampness of Soil and Climate on the Diseases of Respiration, By HENRY J. BARNES.
6. A Consideration of the Treatment of Autointoxication or Autoinfection Where They Are the Cause of Mental Disturbance (*Concluded*), By L. VERNON BRIGGS.

2. **The Treatment of Joint Disease by Passive Congestion.**—Hartwell states that the technics, as it has been developed by Bier, consists in the application of two or three turns of an Esmarch bandage about the limb above the affected joint. It should be applied just firmly enough to constrict the thin walled veins, but not enough to obstruct the arteries, or if at all, only to a slight extent. The venous congestion thus induced extends not only through the superficial veins, but also to the deep ones. By means of more or less tight application of the band all grades of congestion can be induced, from the light to up to the severe. The greatest care should be taken that the so called hot congestion is always obtained and that the congested limb is never cold to the touch. This form of congestion is used in most cases of acute and subacute joints, continuously with short interruptions, in the beginning, while later the intervals between congestion are made longer. The author has treated ten cases of joint disease which he reports, and he thinks that from this small number of cases it seems fair to conclude that passive congestion shortened the course of treatment of these diseased joints, and that by its means excellent results were obtained where in some the only outlook seemed to be in operative interference.

3, 4. **Some Ætiological Suggestions.**—Wellman reports among other items that he found while examining a scraping from a yaws papule a number of active spirilla like bodies which in form and movement closely resembled *Spirochæta Obermeieri*. Unfortunately his patient, a young girl, probably alarmed at his interest in the case, promptly decamped. He thinks that there may be some significance in the presence of the spirochæta in yaws. The many points of likeness between yaws and syphilis which has led to theories of their actual identity lends weight to his findings. The histopathology of yaws and syphilis has many points in common, and should the germ of both turn out to be a spirochæta their relation could be regarded as even closer. In such an event the venereal disease of horses and two of the great venereal diseases of man, syphilis and yaws, which later is undoubtedly often transmitted by sexual contact, would be shown to have a similar ætiology.

5. **The Influence of Dampness of Soil and Climate on the Diseases of Respiration.**—Barnes gives a review of the literature of this interesting subject with statistical reports, and comes to the conclusion that all the diseases of respiration are common enough, regardless of dry, or damp soils, in hot or cold, moist or dry, climates, to at least raise a doubt if these conditions have any influence whatsoever as a cause of the diseases of respiration; but that an excessively dry air, which Nature nowhere provides, but which we create in winter by raising the temperature of air holding a very small volume of watery vapor, and thus lower the relative humidity to an extent sufficient to impair the resisting powers of the mucous membrane lining the respiratory

the better. Instruct the students well and we will have a well educated profession. This he well illustrates by saying: "Imagine the frame of mind of the patient who, having consulted his physician and paid his fee, learns that his prescription calls for orangeine and antikamnia, with which the daily press has made him familiar." Stieglitz (8) comes to the conclusion that the physicians ought to insist that all chemical compounds whatever should pass before some reviewing board, which will insist that the manufacturers "give the plain truth, the whole truth, and nothing but the truth." Williamson's paper (9) is more or less an endorsement of the views of Davis (6). The teacher of materia medica should acquaint the student with the situation in regard to nostrums as it actually exists, and by thus sounding a note of warning, send him out forewarned and forearmed. Long (10) speaks of the work of the council of pharmacy and chemistry. It must be absolutely correct, it should not pry into the secrets of the manufacturer's business, but it should insist on knowing the truth about the article manufactured if it is to be used in the treatment of disease.

11. The Parasitism of the Tubercle Bacillus and Its Bearing on Infection and Immunity.—Smith concludes his article by saying that the influence which a possible immunization of the human race might have on the destiny of the tubercle bacillus is open to debate. The only way to suppress an infection is to do so rather than to establish a compromise by simply increasing our resistance, which latter will not eliminate tuberculosis. The only way to accomplish this is to prevent the bacillus from attacking a new subject. Immunization, combined with isolation and other preventive measures, would probably place a decided check on the disease, while immunization by itself alone would lead eventually toward the selection of especially virulent races of the tubercle bacillus which, producing a mild disease in the partially immune, would probably cause a very severe disease in the unprotected or unvaccinated.

MEDICAL RECORD

May 5, 1906.

1. A Case of Heteroplastic Ovarian Grafting, Followed by Pregnancy, and the Delivery of a Living Child, By ROBERT T. MORRIS.
2. The Practical Significance of Our Knowledge of Bacteria in Their Relation to Pneumonia, By AUGUSTUS WADSWORTH.
3. A Case of Syringomyelia, with Partial Macrosumia, By M. G. SCHLAPP.
4. Exercise, By JOHN W. WAINWRIGHT.
5. Rheumatic Manifestations in Children, By MONTGOMERY HUNT SICARD.
6. The Formation of a Cul-de-sac for an Artificial Eye, By FRANCIS VALK.
7. Strangulation of Small Intestine Through a Slit in the Omentum, By CHARLES GOODMAN.
8. Foreign Body in the Orbit, By T. A. BOOT.

1. A Case of Heteroplastic Ovarian Grafting, Followed by Pregnancy, and the Delivery of a Living Child.—Morris reports a well defined instance of heteroplastic grafting, followed by pregnancy, and the delivery of a normal child. After describing his experiments on rabbits and his work of performing the operation of removing both ovaries entirely and replacing them by segments taken from ovaries of another patient, he gives the after history of the case which culminated in the delivery of a female child. The author expresses his hope that it would be possible to make fertile some women who have reached the menopause through disease, surgical operation, or, possibly, after the normal menopause. It will be interesting to note which parent the child resembles. According to Hæckel hereditary characteristics are due to cell memory, and the cell memory of an engrafted ovary may not be changed by the influence of its new host. It is fair to say, however, that the mother who bore the

child is the real mother, as she furnished the nutrition for development of the child. It is somewhat important, aside from medical and from ordinary sociological interest to place the status of this child, for in legal circles the word "descendants" will now come to have a larger meaning.

4. Exercise.—Wainwright says that a certain amount of exercise is essential for the preservation of health. Dr. Bois Reymond defines exercise as the frequent repetition of a more or less complicated action of the body with the cooperation of the mind, or of an action of the mind alone, for the purpose of being able to perform such actions better. It is also of great value for hygienic as well as therapeutical reasons, in the treatment of debility, anæmia, hysteria, neurasthenia, muscular atrophy, and obesity. In ill nourished children, as well as convalescents, gentle exercise is of the greatest value in promoting a speedy return to health. Gymnastics can be put to remarkably good use in the treatment of chorea, in the education of children with inherited neurotic, or insane tendencies. Medical gymnastics deservedly holds a prominent part in the list of so called natural methods in the treatment and prevention of disease. The physician ought to understand something of this method, which is largely practised in Sweden, Denmark, Norway, Germany, Austria, Holland, and to some extent in France, while neither in the United States nor in Great Britain the system has been received with much favor, chiefly for the reason that the medical profession generally has held aloof, and medical gymnastics are taught and practised by individuals, many of whom are ignorant of the proper manner of applying the method. In Europe and in Sweden especially, medical gymnasts are thoroughly trained. At the university of Upsala, every medical student has to pass an examination in massage and gymnastics, the course being of a year's duration.

5. Rheumatic Manifestations in Children.—Sicard states that rheumatism in nursing infants is very rare. In childhood the disease is atypical, the joint signs being but little marked; the so called complications being in children rather types of the disease, for they may occur without joint symptoms, either alone or associated with each other. The whole attack, while seemingly mild and subacute, is capable of causing severe damage to other structures, notably the endocardium, pericardium, and the nervous system. Relapses occur, and patients are often left invalids for life.

6. The Formation of a Cul de Sac for An Artificial Eye.—Valk describes his operation in which he followed the method of Weeks in every detail with a Wolf's graft obtained from the inner aspect of the arm. The patient had been severely injured while attending an exhibition of fireworks, a stick of rocket which had been fired passed in falling with the burnt end downward through the eyeball and cheek out again. The traumatism was a severe one, it seems to have torn out the eyeball, fractured the outer part of the orbital plate of the superior maxillary bone, but did not injure the infraorbital nerve. Three years later the author performed his operation, which has to be done under perfect asepsis, the technics must be carried out very rapidly, at no time must the graft be allowed to cool, but must be kept constantly moistened in warm normal salt solution, and the graft must be quickly and securely attached to the periosteum of the edge of the orbit. So far the result has been good.

7. Strangulation of Small Intestine Through a Slit in the Omentum.—Goodman speaks of the importance and great value of the omentum in guarding the visceral contents of the peritoneal cavity, and the readiness with which it responds to an impending bacterial invasion by walling off the offending organ from the general cavity. The hernial orifice, whether diaphragmatic or inguinal, is almost invariably guarded by the

supposed to be subject to pressure. One possible cause for this is the pressure of the contents of the stomach, which is increased in the case of a patient with a stomach and which but for the strong muscular contraction of the stomach is not so. The pressure of the stomach is increased in the case of a patient with a stomach and which but for the strong muscular contraction of the stomach is not so. The pressure of the stomach is increased in the case of a patient with a stomach and which but for the strong muscular contraction of the stomach is not so.

5. **Foreign Body in the Orbit.**—This describes a case in which a foreign body in the eye after being struck by a nail and which was not first noticed until long after the operation and which was removed weighing 600 grains. It had been lodged in the orbit forty-two days before it was removed.

BRITISH MEDICAL JOURNAL.

1. *Diagnosis and Treatment of Cancer.* By H. J. L. JONES.
2. *The Cancer and Treatment of Cancer.* By P. G. LEWIS.

3. *Anticancer Properties of an Anticancer Serum Obtained from the Blood of a Patient with Cancer.* By A. M. TAYLOR.
4. *The Cancer of the Blood.* By A. M. TAYLOR.

5. *The Cancer of the Blood.* By A. M. TAYLOR.
6. *The Cancer of the Blood.* By A. M. TAYLOR.
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12. *The Cancer of the Blood.* By A. M. TAYLOR.
13. *The Cancer of the Blood.* By A. M. TAYLOR.

14. *The Cancer of the Blood.* By A. M. TAYLOR.
15. *The Cancer of the Blood.* By A. M. TAYLOR.
16. *The Cancer of the Blood.* By A. M. TAYLOR.

17. *The Cancer of the Blood.* By A. M. TAYLOR.
18. *The Cancer of the Blood.* By A. M. TAYLOR.
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20. *The Cancer of the Blood.* By A. M. TAYLOR.
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23. *The Cancer of the Blood.* By A. M. TAYLOR.
24. *The Cancer of the Blood.* By A. M. TAYLOR.
25. *The Cancer of the Blood.* By A. M. TAYLOR.

26. *The Cancer of the Blood.* By A. M. TAYLOR.
27. *The Cancer of the Blood.* By A. M. TAYLOR.
28. *The Cancer of the Blood.* By A. M. TAYLOR.

29. *The Cancer of the Blood.* By A. M. TAYLOR.
30. *The Cancer of the Blood.* By A. M. TAYLOR.
31. *The Cancer of the Blood.* By A. M. TAYLOR.

32. *The Cancer of the Blood.* By A. M. TAYLOR.
33. *The Cancer of the Blood.* By A. M. TAYLOR.
34. *The Cancer of the Blood.* By A. M. TAYLOR.

also must be cut off in the acid form, and a nonfarinaceous diet given in the alkaline form. All causes producing intestinal sepsis are to be sought for and removed.

3. **An Antityphoid Serum.**—Macfadyen has found that the typhoid infection of the goat with the toxic and the typical bacillus in small and carefully regulated doses results in the production to a very considerable degree of an antiendotoxine. The serum acts when injected simultaneously but separately from the toxine; also when injected at the onset of toxic symptoms. Subcutaneous administration is also effective. The serum, in addition to antiendotoxine, possesses agglutinative and bacteriolytic properties. The serum is specific; it neutralizes the typhoid, but not the cholera endotoxine.

4. **Summer Diarrhoea.**—Morgan has made a bacteriological study of cases of acute infantile diarrhoea, and submits a preliminary report. Among other organisms he isolated a bacillus (No. 1) which is not normally present in human stools, sewage, or in drinking water. From its prevalence in the stools and intestines in cases of infantile diarrhoea (28 cases out of 58), also from the fact that it causes death, preceded by diarrhoea in young animals, in the spleens of which it is invariably found in pure culture, one is led to believe that this organism is a factor in the disease.

5. **Increased Barometric Pressure.**—Greenwood has studied the effects of increased barometric pressure upon man, and confirms the conclusions of Bert: 1. Increased air pressures up to +7 or +8 atmospheres do not produce any unfavorable symptoms. 2. Pathological accidents occur during decompression only, and are due to the liberation of nitrogen bubbles in the blood and other tissue fluids, such bubbles leading in some cases to embolism, in others to transitory nerve irritation. 3. These symptoms can be prevented if the rate of decompression be sufficiently slow, that is, at the rate of about twenty minutes for each atmosphere of positive pressure. The author also studied the effects of high pressures; a total pressure of seven atmospheres corresponds to a water depth of 210 feet; so that it is possible for a man to work at that depth with comparative comfort, provided the necessary precautions be taken.

6. **Exophthalmic Goitre.**—Dufton suggests that in exophthalmic goitre, the hypertrophy and overactivity of the thyroid gland, the exophthalmos, the persistent thymus, the enlarged lymphatic glands, the increased connective tissue in the neck, the tachycardia, palpitation and tremor, besides the other subjective symptoms, may be all the symptoms of a disease of some of the chain of sympathetic ganglia. If so, there is no reason why ordinary simple goitre and the exophthalmic form should not be varieties of the same disease, and that a disease of the sympathetic ganglia.

8. **Pneumococcic Arthritis.**—Secretan and Wrangham have collected twenty-five cases of pneumococcic arthritis. It is commoner in males than in females, and affects the upper extremity oftener than the lower. But the knee is the joint most frequently attacked. In most cases the arthritis occurs a few days after the onset of the lung trouble. Complications are usually present, and are often the cause of death. In all cases in which the fluid is at all pus like on aspiration, the joint should be opened and drained.

LANCET.

(1913, 27, 1000.)

1. *The Anticancer Serum.* Its Physiology and Pathology. By S. W. CURE.
2. *The Anticancer Serum.* By W. H. BAKER.
3. *The Anticancer Serum.* By H. M. W. GRAY.
4. *The Anticancer Serum.* By N. RAW.
5. *The Training of Nerve Centres in Children.* By G. E. C. PRITCHARD.

1. The Arterial Pulse.—Curl, in the Arris and Gale lecture, discusses the physiology and pathology of the arterial pulse. Increased frequency of the pulse rate may be produced by the following pathological conditions: 1. The absorption of toxins of bacterial origin. 2. The presence of malignant disease, without there being any rise of temperature. 3. Affections of the heart. 4. Functional disturbance of the heart's action. 5. Exhaustion from severe muscular fatigue, shock, anemia, chlorosis, etc. 6. Certain organic nervous diseases, cerebral hæmorrhage, the terminal stage of meningitis, and the initial stage of locomotor ataxia. 7. Exophthalmic goitre. The pathological conditions giving rise to an abnormally slow pulse are: 1. Whatever causes a rise of blood pressure—*e. g.*, in acute and chronic nephritis, and in certain forms of arteriosclerosis, where the pulse is slow. 2. The retention or accumulation in the body of certain products of an irritant nature. 3. Nervous affections. 4. Exhaustion of the physical or mental powers. 5. Chronic bronchitis and emphysema. 6. Certain degenerative changes in the heart muscle. Infrequency of the pulse may be produced in three ways: 1. The heart as a whole may beat at a less frequent rate than normally. 2. Some of the ventricular contractions may be too weak to send a wave of pulsation to the peripheral arteries. 3. Although the auricles may beat at a normal rate, the ventricles may fail to respond to the auricular contraction. High tension may result from (a) increased force of the ventricular contraction; (b) increase in the volume of blood in the heart or vessels; and (c) increase in the peripheral resistance. The factors concerned in the regulation of the normal pulse and disturbance of which may cause the pulse to assume various forms of abnormality, are the integrity of the heart muscle and maintenance of its functions, the condition of the vessel walls, the state of the arterioles and the nervous mechanism controlling and regulating the heart beat, and the state of contraction or relaxation of the circular muscular fibres of the arterioles. Of pathological pulses few, if any, are characteristic of the diseases producing them, in the large majority of cases no specific alterations are produced. It is in arteries which are either naturally small or are abnormally retracted that one is apt to overlook high tension; in such cases the sphygmograph is especially useful. In some cases of disease the pulse affords no valuable assistance in prognosis; it often indicates the necessity for the exhibition or withdrawal of drugs and affords us commonly a guide to the rational treatment of many diseases associated with circulatory disturbances, and upon our ability to recognize the indications for treatment derived from our examination may the success of our efforts rest.

3. Vaccines in Surgery.—Gray records his experience with vaccine treatment in surgery. By vaccine treatment is meant, roughly, the injection into the patient of quantities of the organisms (dead) which produce the disease. It is found that the resisting power of an individual against the specific organism can be raised with safety by such means. In chronic localized infections or even in some general infections of a chronic character—*e. g.*, Malta fever—sufficient stimulus to a successful resistance is wanting. To use such a vaccine during an acute disease would be simply adding fuel to the fire. After such vaccine is injected there is produced a depression in the resisting power—a negative phase—which lasts for a variable time, according to the amount or virulence of the vaccine. Following on the negative phase the resistance rises till in most cases it is above what it was before—a positive phase. By repetition of such doses at suitable intervals a cumulative positive phase is usually obtained, so that resistance is much increased. If, however, a second injection is made during the negative phase, this phase is augmented so that harm is done. Hence it is necessary to estimate the opsonic power of the patient's se-

rum, which forms a convenient indication of the patient's resisting power, and shows when the positive phase is well developed and it is time for another dose. Tuberculous disease in its various phases has provided the most frequent test for the efficacy of vaccine treatment. The author used tuberculin R. Staphylococcus and streptococcus vaccines may often be combined with tuberculin with good results. They are also of use in ulcerated cancers.

4. Rectal Administration of Antistreptococcic Serum.—Raw records three cases of malignant endocarditis which were immensely benefited by the use of antistreptococcus serum, when other methods of treatment failed. In order to diminish the discomfort and liability to skin rashes, the serum was administered by the rectum. The bowels are freely cleared by aperients and the rectum gently washed out with a little warm saline solution. The formula for injection is as follows: Antistreptococcic serum, 20 cubic centimetres; normal saline solution, 100° F., 40 cubic centimetres. There is no pain or discomfort; the serum is rapidly absorbed and seems to exert the same bactericidal influence as when injected under the skin; skin rashes are rarely seen and the thirst and dry tongue are relieved.

LYON MEDICAL.

April 15, 1906.

1. Neoplastic Forms of Inflammatory Tuberculosis.
By ANTONIN PONCET and RENÉ LERICHE.
2. A Case of Lipoma Cured by the Röntgen Rays,
By F. BARJON.

1. Neoplastic Forms of Inflammatory Tuberculosis.—Poncet and Leriche discuss the literature on this subject, and conclude from their researches that these neoplasms are benign adenomata of inflammatory origin, and that the tuberculous infection engenders in the glands not only hypertrophy and sclerosis, but also typical adenoma tissue.

2. Lipoma Cured by Roentgen Rays.—Barjon reports a case in which a large lipoma was cured in about four months by means of radiotherapy.

PRESSE MEDICALE.

April 11, 1906.

1. The Histological Processes in Atheroma and Arteriosclerosis,
By MAURICE LOEPER.
2. Eversion of the Upper Lid,
By RAYMOND BEAL.
3. Premenstrual Fever,
By R. ROMME.

1. The Histological Processes in Atheroma and Arteriosclerosis.—Loeper does not consider that calcification is secondary to sclerosis of the vascular wall, as is maintained by many authors, but thinks that the two processes are distinct and that they may develop separately, or may combine so as to produce the various aspects presented by nonspecific arteritis. He claims that there are two varieties of calcareous deposits in atheroma, one formed in the middle tunic of the lining of the arteries, the other in hyperplastic connective tissue of the lining. The two frequently coexist.

2. Eversion of the Upper Lid.—Beal describes very well the method in which the upper lid should be everted.

3. Premenstrual Fever.—Romme presents the views of Riebold, who concludes that every woman who presents a temperature of 37.5° C. during the three days preceding the appearance of the menstrual flow is threatened with a pathological condition, the nature of which the physician should endeavor to ascertain.

April 14, 1906.

1. The Ætiology of Atheroma and Arteriosclerosis,
By MAURICE LOEPER.
2. Sporotrichosis (Multiple Subcutaneous Abscess),
By LOUIS DOR.
3. Objective Method of Measurement of the Arterial Tension with the Aid of the Modified Sphygmograph of Dudgeon,
By PARISET.
1. Ætiology of Atheroma and Arteriosclerosis.—Loeper ascribes these diseases to the action of various

various organs, such as lymphatic system to certain extent, lungs, which are of great intestinal, renal, muscular, hepatic, and others are caused by direct action of these virus, such as alcohol, lead, and others.

4. **Exanthemata.**—One describes a case in which measles virus was introduced with that which a case of this kind all at once healed with very good results. Cultures taken of the exanthemata showed a possibility of the virus being introduced.

5. **Measurement of the Arterial Tension.**—Parrot indicates the way in which he is intended to apply the sphygmograph to the arm which he claims possesses several advantages.

GERMAN MEDICAL

April 15, 1906.

1. **Contribution to the Study of the Histology and Pathology of Tabes.** By Professor Dr. MARINCO.
2. **Very Rapid Method for the Detection of Threatened Nephritis, or Saturation, During Mercury Treatment.** By JOSEPH SEVERINO.
3. **Histology and Pathology of Tabes.** Marinco describes tabes with the histological conditions and well known, and illustrates his article with a number of beautiful plates. He has not been able to discover the responsible cells of Schaudinn and Hoffmann in the cerebrospinal fluid of tabetics.

BERLINER KLINISCHE WOCHENSCHRIFT

April 15, 1906.

1. **Wholesale and Abstinence in the Treatment of Whooping Cough.** By C. RINZ.
2. **Subparavertebral Region of Exploration in Pleuritic Exudate.** By O. ROSENKRANTZ.
3. **The Treatment of Measles in Puerperas.** By H. LIEPMANN.
4. **A Case of Acute Bromine Exanthem in Exophthalmic Goitre.** By ULLICH.
5. **Effect of the Commercial Impregnation of an Inoculated Bacterium.** By MAX LATHAUER.
6. **Reaction of the Kidney.** By K. KUPFER.
7. **Euphonia and Aristoline in Whooping Cough.**—This review the results of the use of euphonia in whooping cough, and states that it is a good and pleasant way of producing a remission of the attacks and a shortening of the disease. The only objection was the strong bitter taste of the quinine. Euphonia overcome this objection. The good results results with these two drugs and

4. **A Case of Acute Bromine Exanthem in Exophthalmic Goitre.**—I shall review a case of a woman with exophthalmic goitre, for whom among other drugs a bromine solution was prescribed. On the first day a bromine exanthem appeared, but on the second day the patient had no further symptoms. The next day she was ordered to take the drug again. The rash consisted of small red spots, which quickly merged, itched, and developed into wheals. Some of these wheals were filled in the centre with pus. The outside of the wheals remained red, while the outside of the wheals remained red, while in this rash the face and the genitalia were affected. They remained thus for the lack of the drug. The rash and the exanthem were the result of the bromine. The bromine treatment was interrupted on the second day and lasted ten days.

5. **Torsion of the Omentum and Incarceration of An Intestinal Hernia.**—A woman suffering a pain in the right side of the abdomen. The woman had suffered for some time from a hernia. On account of incarceration she was brought to the hospital and operated upon. It was found that the omentum had been turned over the hernia, and the intestine was incarcerated.

and modified and highly degrees. The patient made a good recovery.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT

April 14, 1906.

1. **Diagnosis and Prophylaxis of Congestion in the Labyrinth.** By Professor OSTMANN.
2. **Technics of Incision in Laparotomy.** By Professor HEUSNER.
3. **On the Diagnosis of the Severe Cases of Appendicitis which Call for Immediate Operation?** By KRECKE.
4. **On the Rupture of the Spleen.** By E. H. GEORGE.
5. **The Extraction of the Canule After Tracheotomy in Diphtheria.** By HEINRICH STROHE.
6. **Foreign Bodies in Stomach and Intestines.** By WEISSBART.
7. **The Treatment of Inflammatory Processes of the Skin by Hot Immersions.** By R. RICHTER.
8. **Two Apparatus for the Examination of the Eye.** By Professor HOPPE.
9. **The Experiments of Professor Emil Fischer and His School on the Synthesis of Polypeptides.** By NADINE SIEDER.
10. **A Report on the Therapeutics of Preparations Derived from Animal Organs.** By HAGER.

1. **Diagnosis and Prophylaxis of Labyrinthitis.**—Ostmann states that a quickly appearing, great lowering of the capability of hearing of the highest sounds in examination of the ear with the Galton whistle, a perception of sound at the healthy ear, and a diminution of the duration of the bony conduction are symptoms of a complicated labyrinthitis from the fenestra rotunda if at the same time a congestion of the tympanic membrane and the middle ear exist. Bleeding at the mastoid process, absolute bed rest, and a thorough evacuation of pus will be the proper treatment. If these are of no avail the mastoid process should be opened immediately.

2. **Technics of Incision in Laparotomy.**—Heusner gives the technics in laparotomy: Perfect asepsis with careful avoidance of contact with irritating fluids, manipulations, and intraperitoneal hemorrhages. The incisions should not be larger than necessary. The nerves of the muscles should be saved, as otherwise relaxation and stretching of the affected region will follow. The incision should be made through well resisting parts of the abdominal wall. This will secure the formation of a well resisting scar. The skin incision should, if possible, coincide with the skin fibres of Lange, as thus there will be attained as little gaping of the skin as possible, and the best cosmetic result. The author then describes the incisions as practised by such authors as Ramsay, Lennander, Gersuny, Edebohl, Stover, Abel, Kehr, Mayo Robson, Mikulicz, Pfannenstiel, and himself.

3. **The Diagnosis of Severe Cases of Appendicitis.**—Knecke describes the diagnostic signs of severe appendicitis: Painful abdominal rigidity, the elevation of the pulse above 100, vomiting, and increased costal respiration, while the behavior of the temperature, percussion of the abdominal region, and the count of the white blood corpuscles are of no great value. The author is in favor of an early operation.

11. **Therapeutics with Preparation from Animal Organs.**—Hager concludes his article in saying that at present the general use of organic therapeutical preparations is not advisable with the exception of thyroïdin in myxedema or exophthalmic goitre; adrenalin or paraneprin in hemorrhages, while ophorin and pancreatin may in the future prove useful.

ZENTRALBLATT FUER INNERE MEDIZIN

April 14, 1906.

1. **Dyspnoea in Pleurisy.**—Hofbauer concludes from his studies that the dyspnoea observed in pleurisy with

effusion occurs mainly in the expiratory phase. It is caused by the presence of a foreign body in the thorax which, in turn, brings about a retraction of the lungs. In consequence of this a great part of the inherent elastic power of the lungs upon which expiration depends, is lost.

2. **Malta Fever.**—Axisa reports a case of Malta fever with severe intestinal hæmorrhages, typhoid fever having been excluded from the diagnosis. In the treatment of diarrhoeas in this disease, the author has seen better results from intestinal antiseptics than from astringents. The diet is important and must be entirely fluid, to be continued well into convalescence. Frequently after a normal temperature of some days, the administration of solid food will cause a sudden high rise of temperature.

ZENTRALBLATT FUER CHIRURGIE.

April 14, 1906.

1. The Interval Operation in Appendicitis.

By W. HAGEN.

1. **Interval Operation in Appendicitis.**—Hagen shows by some clinical histories that, in his hands at least, the interval operation for appendicitis is dangerous. He records a mortality of thirty-five per cent. He urges the greatest watchfulness, nevertheless, and stands ready to operate as soon as further signs of inflammation appear. In the interval, he says, a sharply localized inflammatory process may be made diffuse by the comparatively rough procedures of the operation. Expectant treatment may be equally dangerous so that the surgeon must be prepared to intervene the moment that a progressive inflammatory tendency manifests itself.

ZENTRALBLATT FUER GYNAEKOLOGIE.

April 14, 1906.

1. A Case of Paternal Leucæmia as a Cause of Fœtal Death.

By A. DÜHRSSSEN.

2. Intentional Influence of the Fœtal Skull to Produce Brachycephaly and Dolichocephaly.

By K. ELSÄSSER.

3. A Series of Deformed Boys.

By A. SIPPEL.

4. A New Vaginal Speculum.

By M. SEYFFERT.

1. **Paternal Leucæmia.**—Dührssen recalls a case of fœtal death due to leucæmia in the father who subsequently, while under treatment which benefited him materially, became the father of a perfectly healthy child. He makes mention of the case in criticism of the treatment of a case by Bossi who dilated the cervix with his instrument to bring about a rapid delivery. Dührssen prefers the vaginal Cæsarean section in cases in which the cervix is not yet dilated.

2. **Deformities in Boys in One Family.**—Sippel relates an interesting series of deformities arising in a single family. A healthy man became the father of five healthy boys and seven healthy girls. After the death of his wife, he married her sister. The three girls born of this marriage were perfect children, but the four boys all showed some developmental defects. One had a spina bifida, the second a persistent thymus, the third was stillborn without any demonstrable cause, while the fourth was born with a congenital myxœdema. Sippel thinks the paternal influence may logically be excluded in accounting for the defects, as the same man had previously been the father of twelve healthy children; but he believes the mother responsible in this sense that the ovules which developed into male children were exclusively and regularly affected.

RIFORMA MEDICA

March 31, 1906.

1. A Case of Spina Bifida in an Adult.

By L. LOSIO.

2. A Case of Permanent Slow Pulse.

By LEONE MINERVINI.

3. A Case of Friedreich's Disease.

By A. B. GIANASSO.

4. Researches on Lysoform in Surgical Technique and in Insane Asylum Practice.

1. **Spina Bifida in an Adult.**—Losio reports a case of spina bifida in which he successfully operated, in a student twenty-three years of age. Cases of this anomalous formation in adults are very rare. The patient had no serious disturbances of any kind as the result of the tumor until he sustained a severe blow upon the projection. The symptoms which followed were like those of a cerebral concussion. The skin over the tumor was also ulcerated in one or two places as the result of the patient's habit of lying upon his back. The tumor was exposed by means of an elliptical incision directed transversely; the fluid contents evacuated, and the sac ligated and excised.

2. **Permanent Slow Pulse.**—Minervini's case occurred in a man, aged thirty-five years, with a neuro-pathic ancestry, whose illness began with attacks of headache and neuralgia of the facial, recurring in repeated attacks for a number of months. About a month before admission he began to suffer from daily or nightly attacks of cardiac oppression. The oppressive "aura" began in the loin, ascended to the heart and shoulder, and descended to the finger tips along the upper extremity. The aura was followed by pain in the regions mentioned, and this pain was especially marked in the epigastric region. The attacks were accompanied by extreme weakness, and were terminated with eructations. The patient was anxious during these attacks, but did not have the fear of death. The patient articulated slowly and moved languidly. His walk was slow, with small steps, the body being held rigid and the hands being pressed against the side over the heart. The pulse was slow, high, ample, strong, and paradoxical, owing to the presence of a prolonged diastole and a lowering of the average arterial pressure. There were never more than forty-nine or fifty beats per minute. The heart proved normal on examination, save that the second aortic sound was accentuated during the attacks. The diagnosis was hysteropilepsy, manifested by the aura described, the slow pulse being due to a bulbar irritation, which was due in this case to the absence of cerebral inhibition.

ROUSSKY VRATCH.

March 11, 1906.

1. New Ideas in the Diagnosis of Internal Diseases. An Introductory Lecture, By F. V. JANOVSKY.
2. Obstruction of the Sigmoid Flexure as the Result of Cicatricial Contraction of Its Mesentery (*To be concluded*), By M. M. KOUZNETSOFF.
3. Pyæmia as the Result of Otitis, Without Involvement of the Sinuses, By P. K. BROSHNIOVSKI.
4. A Case of Actinomycosis, By T. V. ZIPPERKUS.
5. Investigation of a Crime. Attempt at Homicide or at Suicide (*To be continued*). By M. A. MOSKALEFF.

3. **Otitic Pyæmia, Without Sinus Phlebitis.**—Broshniowski discusses the pyæmia which occurs without the involvement of the lateral sinus. In the majority of cases of pyæmia due to ear trouble the lateral sinus is involved, the suppurative process in the middle ear gradually extending from the temporal bone to the walls of the sinus in which it forms an infectious thrombosis. From this thrombus arises the pyæmia which complicates suppurative ear disease. Instead of involving the lateral sinus the suppurative process may, as Hewett pointed out as early as 1861, extend through the internal tubular or through the small vein of the mastoid region. The lateral sinus therefore is not always the medium of transmission of the local process into the general circulation. According to Koerner, the minute veins which are found in the bone and which empty into the veins of the dura mater become the site of osteophlebitis and the media of transmission of the infection into the blood. In the case reported by Broshniowski the process described by Koerner had taken place. The patient was a man, aged twenty-five years, suffering from chronic purulent otitis media, which later developed into a mastoiditis in the usual manner. The

(Continued on Inside Front Cover)
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4. Bacteriological Findings in Fifteen Cases of Epidemic Cerebrospinal Meningitis, with Special Reference to the Isolation of the Meningococcus from the Conjunctiva and from the Circulating Blood.

By G. C. ROBINSON.

5. A Case of Primary Thrombosis of the Lateral Sinus, Running Its Course, with Operation, and at No Time Having any Involvement of the Middle Ear.

By F. M. CUNNINGHAM.

6. The Lymphatic Drainage of the Pharyngeal Tonsil,

By G. B. WOOD.

7. Belladonna Poisoning Due to Belladonna Plasters,

By C. M. DOLAN.

8. A Bacteriological Study of the Certified Milk of Philadelphia,

By A. H. STEWART.

9. Osteoarthritis. The Ætiology, Pathology, and Classification of Certain Forms of Joint Disease, with a Scheme for the Classification of Joint Diseases Generally.

By P. W. NATHAN.

10. Lumbar Puncture. A General View of Its Value and Applicability,

By S. J. KOPETZKY.

11. Nonparasitic Cysts (Congenital) of the Liver, with a Study of Aberrant Bile Ducts,

By E. MOSCHOWITZ.

2. **Hepaptosis.**—Binnie suggests the following principles of general treatment: 1. Nutrition should be attended to by the exhibition of proper food, care of digestion, etc. The muscles, especially those of the abdomen, must be built up by massage and suitable exercise. 2. Increase of the ptosis should be prevented, the abdomen being supported by a well fitting corset or belt. 3. In severe grades of ptosis operation will be necessary, and a combination of hepatoxemy and laparotomy is suggested. The former consists in surturing the liver margin to the costal margin, shortening the ligaments and using the gallbladder as a means of support, if necessary. Laparotomy consists in excising the excess of belly wall, removing the tissues between the separated recti muscles and excising a segment of the wall transversely, leaving a T shaped scar. The author suggests instead of the above the excision of none of the tissues except the skin, a long incision being made and the abdomen so closed that one rectus muscle will overlap the other.

3. **Hodgkin's Disease.**—Ruffin's conclusions are: 1. Hodgkin's disease shows histological changes peculiar to itself, as found by Reed, Longcope, and others. 2. The easiest and surest method of diagnosis lies in the removal and histological study of a diseased gland. It may be impossible to make a conclusive diagnosis during life in any other way. 3. Glandular tuberculosis may be excluded by the tuberculin test. Some cases are characterized by a typically relapsing fever.

4. **Epidemic Cerebrospinal Meningitis.**—Robinson, in a study of fifteen cases, isolated from the spinal fluid, circulating blood, pus from the conjunctiva, and from the central nervous system an organism corresponding to the diplococcus intracellularis meningitidis of Weichselbaum. It was obtained in pure culture from the spinal fluid of fourteen cases in which lumbar puncture was performed and was believed to be the causal agent. It was obtained from the circulating blood in two cases, but grew on culture media in only one of them. It was believed that it may be present in the blood many days during the course of the disease. It may be found in the pus of purulent conjunctivitis which frequently accompanies meningitis. Pyogenic cocci are frequently found in secondary lung infections following meningitis. A terminal bronchopneumonia showing pyogenic cocci occurred in five of the author's cases which came to autopsy.

9. **Osteoarthritis.**—Nathan finds as the result of his investigations that the various forms of osteoarthritis have a very distinct connecting link. They are all due primarily to a disturbance of the bone nutrition. Not alone senility whether premature or not, in which the retrogressive processes prevail, but anything which interferes with the nutritive processes, whether general

or local, can induce trophic osteoporosis. When there is defective nerve supply it causes fragility of the bones and osteoarthritis of organic nervous disease. In the young it indicates that the general metabolism is at fault. It is the result of chronic toxæmia when it is connected with pulmonary tuberculosis and bronchiectasis. With cardiac disease it is the evidence of deficient nutrition. Trophic osteoporosis is therefore a generic process and may serve as the keynote in the classification of these cases.

10. **Lumbar Puncture.**—Kopetzky considers the subject from three points: I. As an aid to diagnosis; 1, the pressure under which it is obtained; 2, its coloration; 3, the bacteriological findings; 4, cytodiagnosis; 5, the chemical examination; 6, cryoscopy of the fluid; it is a measure of great value, especially to clear up doubtful diagnoses. II. As a therapeutical measure it relieves pressure symptoms and removes microbic and toxic agents which have penetrated the subarachnoidal space; it induces the secretion of new cerebrospinal fluid which may have active bactericidal powers; it relieves pain, headache, and various other symptoms of nervous origin. III. It causes anæsthesia by interrupting the nervous continuity in the lumbar space, and of the spinal nerve roots.

11. **Nonparasitic Cysts of the Liver.**—Moschowitz concludes: 1. Nonparasitic cysts of the liver are associated with congenital anomalies in the liver and other parts of the body, especially with cysts of the kidney. 2. The aberrant ducts are embryonal "rests" formed in the course of development of the liver, and have thus far been found only in cystic liver or in livers associated with cystic kidney. 3. Nonparasitic cysts of the liver have their origin in these aberrant ducts and may assume two forms, one arising from inflammatory hyperplasia of the ducts, the other by retention of fluid in the ducts, as the result of congenital obstruction.

Letters to the Editors.

A NOTED CASE OF THE LORENZ OPERATION.

337 LEXINGTON AVENUE,

NEW YORK, May 8, 1906.

To the Editors: Within the last ten days the lay press has contained several reports with regard to the result of the Lorenz operation upon the Armour child. In view of the far reaching effects of the result of this operation, it seems to me that as much publicity should be given to the truth as has been given to erroneous statements. This subject comes up whenever the child goes abroad.

My answer to a previous statement as to the failure of this operation was reported in an editorial of the *New York Medical Journal*. When the recent report appeared, I took occasion to communicate with Dr. Frederick Müller, of Chicago, who was associated with Dr. Lorenz and myself in this operation, reporting to him the adverse criticism of certain physicians here. Dr. Müller has treated this patient, having her under constant supervision while in America. In reply to my letter I received the following telegram:

"Central reposiotion. Quote me as authority.

"Frederick Müller."

The profession should bear in mind that this child had a dislocation of both hip joints; that the left femoral head was found at about the level of the acetabulum, but a little behind it, as the result of a previous operation, and was not disturbed by Lorenz. This will probably impart a slight limp.

The influence of these erroneous statements, apart from their injustice to Dr. Lorenz, will be very serious to suffering humanity, in that a great many of these cases will be withheld from operation in the patients'

many years. After many years he found that functionally perfect results are obtained by conservative operators in less than one per cent. of operations on patients past the age of twenty years. I will report shortly the results of my own and thirty operations.

THOMAS D. ALGER.

Proceedings of Societies.

MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Meeting of April 6, 1906.

The President, DR. T. E. SHERMAN, presided at the Session, and Messrs. W. H. HANCOCK and THEODORE D. ALGER acted as Secretaries.

A Comparison of the Results of Tuberculosis of the Peritoneum by Surgery and by the Conservative or Expectant Method.—The introduction was by Dr. J. C. HANCOCK, of Baltimore, who, after speaking of the advantages of early diagnosis in intestinal cancer, took up this subject. The question to be asked, he said, was not whether any so-called cure was possible by conservative treatment, and, secondly, whether operative treatment would show any better results than this. The answer had to be given to meet the question, that any given case of tuberculosis of the peritoneum that was given a chance to be cured might really not be tuberculous.

In speaking of the diagnosis the writer related particularly to three methods which enabled us to determine the presence or absence of tuberculosis: 1. Suspended thoracic drainage of the exsclatous organs. 2. Injection of Ehrlich's tuberculin. 3. The reaction of Ehrlich. This had in his experience proved a very valuable aid to diagnosis in doubtful cases.

Among American authors there appeared to have been no effort made to ascertain the comparative merits of the operative and the conservative treatment of tuberculous peritonitis. Up to the year 1900, at least, and possibly to the present time, the great majority of cases of this disease was almost always fatal, and treated by laparotomy. Even the most conservative treatment shared the view of the surgeon that operative gave decidedly better results than conservative treatment. In fact, at one time this operation was looked upon as almost a specific means of cure. It was, however, very interesting to learn that a prominent surgeon, Borchgrevink, emphasized the possibility of a spontaneous cure. Of forty-four cases reported by him in 1900, twenty-two were treated by laparotomy and the other half by the conservative method. Among the former there were 64 per cent. and among the latter 82 per cent. of cures. Dr. Hemmelen had himself had compiled eighty cases of tuberculous peritonitis under his own observation in hospital and private practice. Eleven of these could not be cured for a sufficient length of time to render them amenable to surgery. Of the remaining cases which could be treated, twenty had been treated by operation. Of these, twenty, or a little over one third, were cured. Among the forty-nine cases treated conservatively (in which treatment the aspiration of exudate was included) there were seven cures. While, therefore, he could not conclude the superiority of the surgical that more patients were cured under conservative treatment than by surgery, he was convinced that at least as many patients were cured under surgical treatment. It was a fact that the average duration of the cure was longer in the surgical than in the

surgical cases. In all cases he thought the patient should be observed by some reliable physician and reported well at least one year after the laparotomy or after the conservative course of treatment before we are justified in pronouncing him cured.

Recent Advances in Intestinal Surgery.—This paper was by Dr. ALGERNON T. BRISTOW, of Brooklyn. He said that without complete and careful suture no method of closure or anastomosis could ever be made safe, and the first lesson which the surgeon had to learn was that stitches could be placed very close together without the disastrous results which were formerly feared. As soon as this had been understood countless had been the varieties of sutures devised, but it was a fact that there had not been invented a single form of suture in the last five years, however complicated it might be, which was not either identical with or a modification of some of the sutures of the eighteenth century. The methods of Maunsell and Connell, in which the sutures were passed entirely through the bowel, had proved that the fear of infection resulting from a through and through suture, which had for a long time been entertained, was really groundless. The fact that the adhesion of the peritoneal surfaces opposed by the suture line took place so rapidly that the effusion of intestinal juices was completely prevented rendered it possible to discard all the complicated methods and adopt the through and through suture for end to end anastomosis. The past twenty-five years had witnessed the invention of a score of mechanical appliances based on one of the three types represented by the animal tube of the four monks who practiced surgery in Paris about the year 1250, the deal plate of Reybaud and the ferules of Denans. For those surgeons who relied on apparatus to assist them in their intestinal work, the instrument maker offered and almost endless variety of contrivances of all grades of ingenuity and complexity.

The advances made in recent years in intestinal surgery might be classified as follows: Improvements in methods of suture, in apparatus, and in general technique. Some additions had also been made to our methods of diagnosis, particularly in obscure cases of appendicular inflammation, in which both abscesses and gangrene sometimes existed without much pain or tenderness, and even with a normal pulse and temperature. While the writer commended Connell's suture he believed that the plain through and through suture, passing through all the coats of the bowel had the advantage in point of simplicity and ease of application, and that, provided the silk was sufficiently fine, nothing could be gained by leaving the knot within the lumen of the bowel. Speed was a prime requisite in all surgical work on the intestines. If the surgeon had a fancy for apparatus, nothing more ingenious had ever been invented than the Murphy button. It was particularly useful to those whose experience in this field of work was limited. The clamps of Laplace were excellent devices, which had the advantage over the button that they were withdrawn after the suture was complete, and hence the leaving of a foreign body within the lumen of the gut was avoided. As regarded the matter of improvements in general technique, it was plainly to be seen that the tendency among all surgeons doing much intestinal work was toward simplification and the abandonment of mechanical aids. Thus, Moynihan now entirely rejected the Murphy button for the performance of gastroenterostomy, and employed his forceps merely for the purpose of bringing the stomach and bowel in contact. The elastic ligature of McGraw, however, appeared to have all the advantages of the Moynihan operation and the button combined. In conclusion, Dr. Bristow referred to the encouragement which was afforded by the results obtained in malignant growths affecting the intestine, in typhoid fever perforation, and in amœbic dysentery. In cases of chronic

dysentery, which had resisted medical treatment, Murray recommended right inguinal colostomy for the purpose of giving physiological rest to the affected portion of the bowel, reporting a successful case. In the same class of cases Weir and Meyer had irrigated the colon through the vermiform appendix after opening its tip and attaching it to the external wound.

What has Surgery Left to Medicine in the Treatment of Peritonitis?—Dr. HENRY W. BERG read this paper. Its object was to show that, while surgery was the stronghold in the treatment of peritonitis, medicine, with the basic knowledge as to diagnosis, pathogenesis, and aetiology, which it had developed in the past few years concerning this affection, had laid the groundwork for the successful surgical treatment, and at the same time had amplified our purely medical curative resources to an appreciable, if more limited, extent. Aseptic surgery and improvements in surgical technique, he said, had done so much in the successful prevention and treatment of peritonitis that a discussion of the medical treatment of the disease should properly be limited to the consideration of such treatment as applied to nonsurgical forms of peritonitis and such types of peritonitis as, while amenable to surgical measures in their inception, had progressed beyond the aid of surgery. He thought it would be profitable to classify the various forms of peritonitis into diffuse and circumscribed, acute and chronic. In addition, it was of importance, from a therapeutic standpoint, to recognize in a given case whether the pathological process was aseptic or nonpurulent (fibrinous or serous peritonitis), or whether it was septic, with the presence of pathogenic bacteria as a more than active factor in the inflammation. Finally, belonging in a class by itself and especially interesting from a medical standpoint, there was the peritonitis due to a specific organism, tuberculous peritonitis. But, even when a peritonitis had been classified in accordance with these factors, there remained still to determine the point of origin. From a therapeutic standpoint this was perhaps the most important factor, for its solution, when practicable, carried with it the determination as to whether the case was one in which surgical procedures were the only logical therapeutic measures (at least at the beginning, or even for the prevention of peritonitis), or whether the case was properly a medical one.

Having presented such an aetiological classification, he said it would be seen that in by far the largest proportion of the kinds of peritonitis mentioned the mere recognition of the point of origin necessitated surgical intervention at its inception, and even at any stage, provided the condition of the patient was such that operative intervention still offered a faint hope of success. Thus, there could be no question that peritonitis, due to perforation of a hollow viscus, provided the diagnosis was positive, was to be treated surgically. Medicine, however, had a legitimate and important function even in these typically surgical forms of peritonitis, and that was the prophylactic one—the prevention of the perforation. In connection with this subject of prophylaxis, it was well to remember that medical means played an important part in the timely recognition and cure of many conditions which would ultimately lead to virulent types of peritonitis if allowed to progress without treatment. The types of peritonitis due to spreading by continuity from more or less general or localized inflammations, such, for instance, as the peritonitis complicating enterocolitis in young children, were as a rule examples of acute diffuse peritonitis of a nonpurulent type, and in no sense a field for surgical interference. Nonsuppurative local peritonitis complicating nonsuppurative cholelithiasis and nonsuppurative hepatitis was not necessarily a surgical type of peritonitis. He believed that puerperal peritonitis, with or without septicæmia, should not be treated by laparotomy, and that the consensus of opinion was in

favor of medical means. He would not exclude from such measures the medication and curetting of the endometrium. Again, peritonitis secondary to surgical operations, as well as peritonitis which had not been relieved by surgery, looked to medicine as its last resort. Tuberculous peritonitis was considered by many as a surgical affection; by others of equally competent authority it was maintained that the results were better without surgical intervention. He believed that when we had arrived at a specific for tuberculosis this type of peritonitis would unquestionably be purely medical. The best explanation of surgical cures appeared to him to be on the basis of Metchnikoff's theory of immunity and cure in infectious disease processes. On this hypothesis the incision through the parietal peritonæum brought to the field of operation a large excess of leucocytes, which by their phagocytic activity destroyed the tubercles and bacilli and set up a reparative process.

With regard to the treatment of nonsurgical types of peritonitis, Dr. Berg did not have much confidence in the use of any of the bacteriolytic sera, the bacteriolysis produced by them being so limited that but small numbers of bacteria were destroyed by even the largest possible doses. In every case of acute general peritonitis an investigation into the cause was essential, and when in any instance we had determined that medical rather than surgical treatment was called for, the prime necessity, so far as the patient was concerned, was the relief of pain. This was best accomplished by the hypodermic injection of morphine, in quantities just sufficient for this purpose and no more. Cathartics were contraindicated, except at the very beginning. Here the method of giving Epsom or Rochelle salt or calomel in divided doses had many advocates, both in this country and in England. In cases believed to be of rheumatic origin, and also in some other cases of acute general nonsuppurative peritonitis he had employed rectal injections of sodium salicylate once a day with excellent results. So far as the general septicæmia and toxæmia were concerned, we could do as little here as we could do for these conditions in other diseases. While Crede's ointment might perhaps prove beneficial in some instances, he was disposed to look with more favor on hypodermoclysis with normal salt solution into the breasts and thighs. Absolute rest and a liquid diet were essential, and if there was much vomiting, rectal feeding was called for. The Leiter coil with ice water might be employed for the further alleviation of pain. The ice bag was absolutely contraindicated on account of its weight and bulkiness, while hot applications and poultices rendered most patients uncomfortable, besides weakening them by the perspiration they encouraged. Blisters were of service only where the area affected was limited, as in pelvic peritonitis. For the pain, limited hydrotherapy, applied in such a way as not to disturb the patient, was most desirable. Digitalis, adrenalin, whiskey, and caffeine were the appropriate cardiac stimulants, strychnine being contraindicated on account of its promotion of peristalsis. The medical treatment of tuberculous peritonitis called for the ordinary régime suitable for tuberculous patients. In addition, iodine might be locally applied and inunction of the abdomen over the tumor masses with mercurial ointment employed. The accessibility of the lesion in this affection would seem to encourage a trial of radiotherapy.

The Surgery of the Peritonæum.—Dr. LEWIS S. PILCHER read this paper. Any systematic consideration of this subject, he said would naturally include new growths, traumatisms, and infections. Of the first of these he spoke but briefly. Traumatisms included both the grosser lesions classified as wounds and those lesser, more superficial injuries in which the peritoneal surface was merely irritated. The remarkable regener-

the results of which and the observations already made by other workers, a very close relation, the writer said, was found to exist in the important fact that, while a normal condition would dispose of comparatively unimportant or trifling matter, chemical or mechanical stresses and strains, the presence of periodic stresses and strains interfered decidedly with the normal processes going on and favored the development of the pathological condition.

It is from the relatively new and unexplored research material of physiological chemistry and pathological physiology that the greatest advances in internal medicine may be confidently expected. In recent years the brilliant results attained in a number of notable instances in the domain of experimental therapeutics indicate the abundant rewards which await the trained investigator in this important field. The collection of advanced papers contained in this volume cannot but be highly suggestive and stimulating to all laboratory workers in physiology, and, while not at all times easy reading, they afford the physician and student an insight, not elsewhere readily to be had, into the nature of scientific problems of great significance for the medicine of to-day. Most of the matters fully treated of here are inadequately considered if mentioned at all in the formal outlines of recent textbooks. Thus, the exposition of Ehrlich's theory of immunity given here, is, we believe, by far the best which has appeared in any book in the English language. For the clinician also will be of interest the discussion of authoritative modern opinions on mountain and balloon sickness; caisson disease, the metabolism of fats, carbohydrates, urea, and the purin bodies in their relation to gout, obesity, and diabetes; the value of oxygen as a therapeutic agent; the action of digestive ferments and the internal secretions of the thyroid and suprarenal glands; hæmolysis; and the latest investigations in the study of the urine and functions of the kidneys. In the chapter on enzymes and living cells the researches of Loeb on fertilization are discussed and the importance to cellular growth and activity of the inorganic constituents of protoplasm is emphasized. It is perhaps going too far, however, to say that in the variations in inorganic salts the key will ultimately be found to the secret of the cause of irregular cell division in the body, giving rise to malignant growths. There is, we believe, still a considerable number of respectable authorities to be reckoned with who incline to the parasitic theory of the origin of carcinoma and similar new growths. The conclusion, based upon laboratory experiment, that most oxygen inhalations given to patients are useless will be corroborated by many good observers who have become convinced of its futility at the bedside. An excellent bibliography appended to each chapter will be valuable to the reader who may wish to extend his studies in biological chemistry and physiology to other original sources.

THE LANCET AND THE ART OF PREPARING IT. By F. H. CANTAB., M. D. (Cantab.), F. R. C. P. (Lond.).
D. P. H. (Cantab.), Physician to Out Patients at the
City of London Hospital for Diseases of the Chest,
and of Adams' Dispensary, B. A., M. D. (Cantab.),
F. R. C. P. (Lond.). Physician to Out Patients at
the City of London Hospital for Diseases of the

Miscellany.

The Surgeon in 1628.—Twelve years after Shakespeare's death John Earle published his microcosmographie, a work of much local reputation at the time for its lively and striking portraiture of the people of his time. Earle paints the surgeon and the physician of the early years of Charles I.'s reign in the gloomiest colors. The surgeon of the period prior to the Civil Wars is represented as resenting the comparative quiet and orderliness of society. "He complains of the decay of valor in these days," says the satirist, "and sighs for that flashing age of sword and buckler; and thinks the law against duels was made merely to wound his vocation." It is as a skilled afforder of "first aid" that the surgeon seems chiefly to have been called in by a generation much exposed to accidents and prone to violence. He is the duellists' ally, and "his envy is never stirred so much as when gentlemen go over to fight upon Calais sands, whom he wishes drowned ere they come rather than the French shall get his custom." When the duellists have given him the slip and have settled their differences abroad, he is compelled to fall back on the disorderly classes. "He had been long since undone, if the charity of the Stews had not relieved him, from whom he has his tribute as duly as the Pope, or a windfall sometimes from a tavern, if a quart pot hit right." Abdominal surgery was in that age undreamt of, and a surgeon's legitimate practice was of the scantiest. "The rareness of his custom," we are told, "makes him pitiless when it comes: and he holds a patient longer than our courts a cause. He tells you what danger you had been in if he had staid but a minute longer, and though it be but a pricked finger, he makes it much matter." In an epoch wholly ignorant of antiseptic methods, the surgeon is described as "a reasonable cleanly man, considering the scabs he has to deal with." This is the only approach to praise bestowed upon him, but it is much qualified by the dubious phrase "your finest ladies now and then are beholding to him for their best dressings." There is a modern touch of humor in his alleged dislike of philanthropists. "He curses old gentlewomen, and their charity that makes his trade their alms."—*Medical Review*, London.

Vagrancy in England and Its Cure.—A return of vagrants in the northern countries of England, writes the *Lancet*, has recently been published which gives some interesting information on a subject which has always been a matter of concern not only to the guardians, but to the public health authorities, for in the last outbreak of smallpox in the North the spread of the disease was frequently traced to the nomadic population of our counties, and this was also the case in a less well known outbreak of typhus fever which occurred some few years ago in the Hexham union. The return in question deals with the first seven weeks of the December quarter of 1905 and comparison is made with the corresponding period of 1904. In the county of Durham there was a net decrease of 528 vagrant persons, while in Northumberland there was a decrease of 107. Of course, this decrease is not equal in all the unions and in many of the larger ones there has been an increase. In the remarks made by the various workhouse masters concerned this increase is usually explained by the excess of unemployed, but some light is thrown on the matter by the workhouse master of Berwick-Upon-Tweed, who attributes the decrease in his union to "the supposition that the effect of the Unemployed Workmen Act and Queen Alexandra Fund is to attract the casuals to the large centres to share in the benefits derivable from the Act and Fund in question." The most remarkable feature of the report is the great decrease in South Shields, from 763 in 1904

to 402 in 1905. The authorities seem satisfied that this pleasing result is due to the introduction of certain kind of labors to be performed by the vagrants.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ending May 4, 1906:

| Smallpox—United States. | | Smallpox—Insular. | Smallpox—Foreign. |
|-------------------------|----------------|-----------------------------|-------------------|
| Places | Date | Cases | Deaths. |
| California—Los Angeles | Apr. 14-21 | 8 | 1 |
| California—Ukiah | Mar. 26 | 1 (In State Insane Asylum.) | |
| Connecticut—Putnam | Mar. 1-23 | 30 | |
| Delaware—Wilmington | Apr. 21-28 | 1 | |
| Florida—General | Apr. 21-28 | 8 | |
| Florida—Jacksonville | Apr. 14-21 | 2 | |
| Illinois—Chicago | Apr. 21-28 | 1 | |
| Missouri—St. Louis | Apr. 14-28 | 5 | |
| New York—New York | Apr. 21-28 | 2 | 1 |
| Maryland—Baltimore | Apr. 21-28 | 3 | |
| Ohio—Cincinnati | Apr. 26-27 | 2 | |
| Tennessee—Knoxville | Apr. 26-28 | 1 (In county) | |
| Tennessee—Memphis | Apr. 14-28 | 27 | |
| Washington—General | Mar. 1-31 | 11 | |
| Washington—Seattle | Apr. 14-21 | 1 | |
| Wisconsin—Appleton | Apr. 1-28 | 1 | |
| Wisconsin—La Crosse | Apr. 14-28 | 3 | |
| Wisconsin—Milwaukee | Apr. 14-28 | 8 | |
| Smallpox—Insular. | | | |
| Hawaii—Honolulu | Apr. 7-14 | 1 | 1 |
| Smallpox—Foreign. | | | |
| Africa—Cape Town | Mar. 17-24 | 8 | |
| Argentina—Buenos Ayres | Jan. 1-31 | 66 | |
| Canada—Toronto | Apr. 14-21 | 3 | |
| Chile—Iquique | Mar. 24-31 | 3 | 3 |
| China—Hongkong | Mar. 10-17 | 9 | 7 |
| China—Nanking | Mar. 24 | 1 | |
| France—Paris | Mar. 31-Apr. 7 | 2 | |
| Gibraltar | Apr. 8-15 | 1 | 1 |
| Great Britain—Bristol | Apr. 7-14 | 2 | |
| Great Britain—Glasgow | Apr. 13-20 | 1 | |
| Greece—Athens | Mar. 25-Apr. 7 | | 4 |
| India—Bombay | Mar. 27-Apr. 3 | | 16 |
| India—Calcutta | Mar. 18-25 | | 276 |
| India—Karachi | Mar. 25-Apr. 1 | 57 | 32 |
| India—Madras | Mar. 24-30 | | 33 |
| India—Rangoon | Mar. 19-26 | | 66 |
| Cholera. | | | |
| India—Bombay | Mar. 27-Apr. 3 | | 13 |
| India—Calcutta | Mar. 17-24 | | 37 |
| Plague—Insular. | | | |
| Hawaii—Honolulu | Apr. 25-30 | | 3 |
| Plague—Foreign. | | | |
| Brazil—Rio de Janeiro | Mar. 18-25 | 7 | 1 |
| China—Hongkong | Mar. 10-17 | 7 | 1 |
| India—General | Mar. 10-17 | 13,325 | 10,782 |
| India—Bombay | Mar. 27-Apr. 3 | | 821 |
| India—Calcutta | Mar. 17-24 | | 176 |
| India—Karachi | Mar. 31-Apr. 1 | 96 | 69 |
| India—Rangoon | Mar. 19-26 | | 99 |

Public Health and Marine Hospital Service:

List of Changes of Station and Duties of Commissioned and Non-Commissioned Officers of the Public Health and Marine Hospital Service, for the seven days ending May 2, 1906.

- BELL, J. M., Pharmacist. Granted leave of absence for thirty days, from May 18, 1906.
- BURKHALTER, J. T., Passed Assistant Surgeon. Granted extension of leave of absence for four days, from May 3rd.
- CARRINGTON, P. M., Surgeon. Granted leave of absence for three days, from April 30, 1906, under Paragraph 189 of the Service Regulations.
- FOSTER, A. D., Assistant Surgeon. Granted leave of absence for one month, from April 1, 1906, on account of sickness.
- KALLOCH, P. C., Surgeon. Granted leave of absence for one day, April 30, 1906.
- LUMSDEN, L. L., Passed Assistant Surgeon. Granted leave of absence for two months, from June 1, 1906.
- MASON, W. C., Acting Assistant Surgeon. Granted leave of absence for three days, from April 30, 1906.
- NYDEGGER, J. A., Passed Assistant Surgeon. Leave of absence granted Passed Assistant Surgeon Nydegger for

James Edgar Jones, April 26, 1906, appointed to read for the M.D. degree.

William H. M. Thompson, Assistant Surgeon. Granted leave of absence for temporary duty from May 1, 1906.

William J. M. Thompson, Assistant Surgeon. Granted leave of absence for temporary duty from May 1, 1906.

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Army Intelligence:

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William J. M. Thompson, Assistant Surgeon. Granted leave of absence for temporary duty from May 1, 1906.

BANISTER, JOHN M. Lieutenant Colonel and Deputy Surgeon. Ordered to proceed from Fort Riley, Kansas, to the General Hospital, Washington, D.C., for examination and treatment.

BERRY, R. L. First Lieutenant and Assistant Surgeon. Left Fort Riley, Kansas, April 26, 1906, for temporary duty at the General Hospital, Washington, D.C., for examination and treatment.

CHERRY, E. J. First Lieutenant and Assistant Surgeon. Ordered to proceed from Fort Riley, Kansas, to the General Hospital, Washington, D.C., for examination and treatment.

CHERRY, T. R. First Lieutenant and Assistant Surgeon. Ordered to proceed from Fort Riley, Kansas, to the General Hospital, Washington, D.C., for examination and treatment.

CHERRY, T. R. Captain and Assistant Surgeon. Ordered to proceed from Fort Riley, Kansas, to the General Hospital, Washington, D.C., for examination and treatment.

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erupting Station, Denver, Colo., and ordered to the

HAYNES, J. P. Assistant Surgeon. Appointed an assistant surgeon, with the ranks of lieutenant, junior grade, from April 16, 1906.

HAYNES, J. P. Assistant Surgeon. Detached from the Maine and ordered to the Iowa.

HAYNES, J. P. Assistant Surgeon. Detached from the Texas and ordered to the Iowa.

MEARS, J. B. Assistant Surgeon. Ordered to the Minnesota.

MORRIS, L. Surgeon. Detached from the Iowa and ordered to the Iowa.

MORRIS, L. Surgeon. Detached from the Iowa and ordered to the Iowa.

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MORRIS, L. Surgeon. Detached from the Iowa and ordered to the Iowa.

MORRIS, L. Surgeon. Detached from the Iowa and ordered to the Iowa.

Births, Marriages, and Deaths.

Married

STACY, CURTIS. In Cambridge, Massachusetts, on Wednesday, April 18th, Dr. David Gordon Allen and Miss Mary Gardiner Curtis.

YOUNG, FRED. In Lynn, Massachusetts, on Monday, April 30th, Dr. John Henry Andrews and Miss Cora Linden Ellis.

BARCLAY—POTTER. In New York, on Saturday, April 14th, Dr. Harold Barclay and Miss Helen Fuller Potter.

CHERRY, FRANCIS P. In Boston, Massachusetts, on Tuesday, May 1st, Dr. Francis P. Denny and Miss Martha Ellen Sartwell.

HOEL—STETZLER. In Kansas City, Missouri, on Friday, April 27th, Dr. William N. Hoel and Miss Ella M. Stetzler.

LANPHER, GEORGE P. In Lowell, N. Y., on Tuesday, May 1st, Dr. George P. Kalk and Miss Anna M. Lanpher.

RUCKER, H. COWLES. In Richmond, Virginia, on Saturday, April 28th, Dr. H. Cowles Rucker and Miss Lillian E. Rucker.

SHEPARD, WILLIAM K. In New York, on Wednesday, April 25th, Dr. William Kent Shepard and Miss Ruth Badgley.

SHEPARD, WILLIAM K. In New York, on Monday, April 16th, Dr. William Kent Shepard and Miss Ruth Badgley.

Died.

BARTINE. In Philadelphia, on Sunday, April 29th, Dr. David Wesley Bartine, aged sixty-nine years.

CRISSEY. In Washington, D. C., on Saturday, April 28th, Dr. Sardis L. Crissey.

DECOURCEY. In Cincinnati, Ohio, on Tuesday, May 2nd, Dr. W. E. DeCoursey, aged fifty-seven years.

DOLSON. In Rome, N. Y., on Wednesday, April 25th, Dr. Benjamin A. Dolson, aged seventy-four years.

KERSTEIN. In Chicago, on Monday, April 30th, Dr. Herman Kerstein, aged seventy-seven years.

MANN. In Brooklyn, N. Y., on Tuesday, May 2nd, Dr. D. H. Mann, aged seventy years.

MARSDEN. In Utica, N. Y., on Saturday, April 28th, Dr. William R. Marsden, aged fifty-three years.

NEWTON. In North Bennington, Vermont, on Wednesday, April 25th, Dr. L. B. Newton.

PELTON. In Minneapolis, Minnesota, on Saturday, April 28th, Dr. J. G. Pelton, aged eighty-one years.

PHILLIPS, HOWARD. In New York, on Sunday, April 22nd, Dr. Howard Phillips, aged fifty-three years.

REINDOLLAR. In Taneytown, Maryland, on Monday, April 30th, Dr. William Reindollar, aged eighty-six years.

RITCHEY. In Oil City, Pennsylvania, on Wednesday, April 26th, Dr. John A. Ritchey, aged sixty-six years.

SCHUYLER, BENJAMIN F. In New York, on Monday, April 23rd, Dr. Benjamin F. Schuyler, aged fifty-nine years.

New York Medical Journal

INCORPORATING THE

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A Weekly Review of Medicine

VOL. LXXXIII, No. 20.

NEW YORK, MAY 19, 1906.

WHOLE No. 1433.

Original Communications.

RECTAL ANASTOMOSIS OF THE URETERS.*

By CARL BECK, M. D.,
NEW YORK,

PROFESSOR OF SURGERY IN THE NEW YORK POSTGRADUATE
MEDICAL SCHOOL AND HOSPITAL; VISITING SURGEON
TO THE ST. MARK'S HOSPITAL AND THE GERMAN
POLIKLINIK; CONSULTING SURGEON TO
THE PHILANTHROPIC HOSPITAL.

Ingenious as the numerous efforts are to remedy the pitiful condition produced by exstrophy of the bladder, the results always left one desideratum, viz., satisfactory continence of the urine. This is due to the technical impossibility of creating an artificial sphincter vesicæ. It was obvious therefore that the sphincteric apparatus of a neighboring organ, the rectum, was utilized for this purpose.

Led by the consideration that there is a cloaca common to the intestinal as well as for the urogenital passage in many animals (in birds, for instance, a receptacle for the products of the genitourinary as well as the digestive tract is formed by the enlargement of the lower end of the straight gut), John Simon, in 1851, tried to divert the urine into the rectum of a thirteen year old boy who suffered from exstrophy of the bladder, by implanting the lower ends of both ureters into the rectum by juxtaposition.

Another impetus was given by the observations that patients afflicted with vesicorectal fistula, obtained a certain degree of control over the escape of their urine. Congenital rectoureteral anastomosis (the case of Richardson seems to have been one of this kind¹) served as an additional demonstration of the propriety of such a procedure.

Simon's patient succumbed to "affection of the ureters and kidneys, with large accumulations in the ureters." The other cases, operated one by Roux and another by Lloyd after the same method, shared the same fate. Thus, the ingenious procedure of the great English surgeon

was no longer practised until Thiersch revived it in 1881. He succeeded in transplanting the ureters in the rectum in a case of exstrophy of the bladder.

Still, the results in general were poor until the genius of Carl Maydl showed us how to preserve the sphincteric action of the ureters by implanting their end, together with the vesical trigonum, into the sigmoid flexure. The remainder of the exstrophied bladder was then removed and the abdomen closed. Of twenty-two patients thus operated upon only three died from ascending infection. In the remaining nineteen the bowel showed considerable tolerance to the urine and a capacity of holding it for four or five hours. The avoidance of ascending infection in Maydl's cases is mainly due to the complete preservation of the ureteral orifices, the utilization of which served as a preventive of infection of the kidneys. The large size of the flap also insures its arterial nutrition, while an isolated ureteral end is apt to become gangrenous.

So far, I have performed this variety of operation but once, the patient being a boy of nine years who suffered from exstrophy of the bladder. I had made several autoplasmic attempts, but with negative result. The annoyance caused by the irritable mucous membrane, which bled easily, as well as by the excoriation of the surrounding integument, was great. On December 9, 1900, I made a semilunar incision around the upper border of the wall of the bladder and divided the peritonæum underneath in a longitudinal direction. For exact localization small catheters had been introduced into the ureters before. Then the opening was so far enlarged that the ureters could be isolated, so that finally it was possible to suspend the bladder fragment, so to speak, on the ureteral pedicles. The vesical trigonum, together with the ureters, was then excised in a rhomboid shape and implanted into a longitudinal slit made in the anterior surface of the sigmoid flexure, which was found immediately behind the posterior wall of the bladder on the left. Mucous as well as serous membranes were individually united. For the inner (continuous) suture thin silk was used, while for the serous coats catgut (interrupted) was selected. The afferent portion of the flexure was clamped off before incision. The laparotomy wound could be united after the inner margins were equalized, and the inner borders of the recti muscles mobilized so that they could be brought into apposition. A tube was introduced into the rectum.

* Read before the American Urological Association, April 3, 1906.

¹ R. Richardson, Observations in Natural History, made at North Bierly, Yorkshire, 1713. *Philosophical Transactions of the Royal Society of London*, vi, 1809: "One John Woosnape, of North Bierly, a poor boy, lived till he was seventeen years of age and never made water, and yet was very healthy, vigorous, and active. He had constantly a diarrhoea on him, but without much uneasiness. The obstruction must have been in the kidneys, because he never had any inclination to make water. He died of fever."

There was considerable vomiting after the operation, but the patient ultimately recovered. He continued to urinate well and could hold his urine for three or four hours. But every day in a while he suffered from intense irritation of the mucous membrane of the rectum and from diarrhoea. Fourteen months after the operation he passed some thin mucus.

The greatest weakness of the sigmoid flexure seems to be the best place for implantation, because it is easily movable. The rectum might for some minor reasons be preferred were it not for its immobility which makes it unfit for the purpose. It would also implantation at this



FIG. 1. Urinal anastomosis, sigmoid flexure, and rectum.

point would be entirely impracticable in view of the interposition of the uterus.

Instead of forming the flap elliptically I gave it a diamond shape because it could then be more easily adapted to the margins of the longitudinal opening in the intestine. Thus more regularity in the distribution of pressure is attained, a factor not to be underestimated in so delicate a plastic operation. Other modifications like the mode of suturing were described above.

In spite of the undeniable success of ureteral implantation into the intestine it does not seem as if it would become a peculiar operation. The reasons are obvious. Aside from the great technical difficulties which the operation presents, it must be considered that the danger of peritoneal sepsis is great. Furthermore, ascending infection is invited by stenosis of the implanted orifices, whereby retention of urine is caused. These facts induced me to select the autoplasmic method as my means of anastomosis of the bladder. In one of my previous publications on the sub-

ject (On a New Method of Operation for Exstrophy of the Bladder, *New York Medical Journal*, August 25, 1900) I described a method the main object of which was the restoration of the retentive power of the bladder by an anterior muscular wall.

This was accomplished in a boy of three years, whose exstrophy was of immense extent, the mucous membrane protruding from the symphysis pubis to the umbilical region over an area, two and a half inches in diameter. There was complete epispadias and absence of the testicles.

The margins of the protruding vesical walls were freed and both recti muscles exposed. They were then severed from their insertion at the pubes and partially from the transverse fascia until they were so far mobilized, that they could be reflected and united, thus forming an anterior bladder wall. (Case presented to the scientific meeting of the New York German Poliklinik, September, 1898).

Then I went one step further by exposing and incising the recti muscles along their internal margins to the extent of a little less than half their thickness in a boy of five years. Two transverse incisions connecting the outer and inner margins of each rectus muscle and extending down to the substance of the muscle to the same extent completed the outlining of the flaps. Beginning at the internal margin of the incision, the upper layers of fibres of the recti muscles were divided, until the flaps so formed could be lifted near the outer margin with which they remained connected after the manner of a hinge. The vesical walls were then brought into apposition, and the reflected muscular flaps united above. The boy could sometimes hold his urine for fully an hour.

No matter, however, how good the autoplasmic results may be, they never give complete satisfaction. The main advantage of the autoplasmic methods over intestinal implantation therefore is their comparative safety. If the autoplasmic methods fail, implantation is certainly the most preferable of all the methods we may resort to as our resources stand to-day.

It is to be hoped that the future with improved methods will give us still better results, a large number of investigators having tried experiments in the lower animal to find new points in this direction. In the publication quoted I had referred to some of my own experiments on dogs, the impetus being given by Tizzoni and Pozzi (*Die Wiederherstellung der Harnblase, Zentralblatt für Chirurgie*, 1888, No. 50). My procedures differed in that I did not attempt to carry out all the necessary steps in one operation, but in different stages.

While the experiments may not be of practical value, still they may be of sufficient interest to be mentioned once more. The first step consisted in dividing the descending colon, forming an artificial anus at the upper portion of the bowel and uniting the lower portion with the bladder. This practically means implantation of the bowel into the bladder. After union had been obtained a large portion of the descending colon, that is, of the portion now united with the

bladder, was dissected and its end closed by a double row of sutures. The artificial anus was eliminated by liberating its end and uniting it with the remaining fragment of the descending colon. None of the animals received any nourishment on the day previous to the operation. They were all chloroformed and anesthetized, and their bowels were evacuated by copious irrigation. After washing out the bladder its fundus was opened longitudinally. Then the descending colon was pulled down, clamped off and a longitudinal slit made into it. Mucosa and serosa were then individually united.

Of three dogs thus treated two died from peritonitis. The surviving dog was reoperated after a month. The abdominal incision was made somewhat above the first opening. The bladder

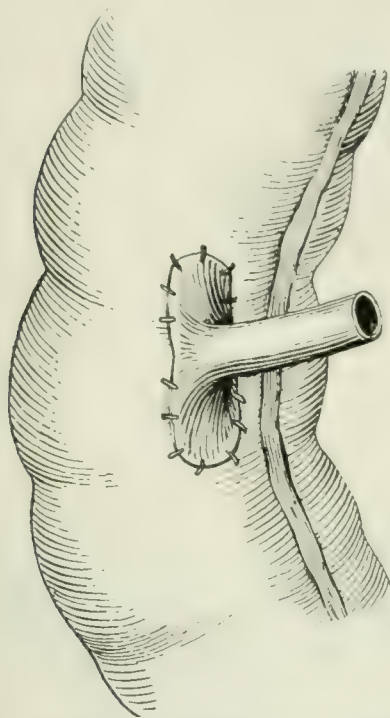


FIG. 2.—Lower end of the ureter implanted into the bowel after being split.

was found thoroughly united with the bowel. Now the descending part of the colon was excised to the extent of eight inches and closed by a double row of sutures. Then the end of the intestinal fragment, represented by the artificial anus, was liberated and united with the descending colon. The dog died five days after the operation from peritonitis, one of the sutures having yielded. It seems to me that in man this experiment would have better chances, as asepsis could be kept up much more thoroughly.

So far I had only one suitable patient on whom I would have felt justified in attempting this procedure. But in view of the great risk connected with it I was not given permission. I am confident, however, that it is perfectly feasible to implant the bowel in the vesical fragment in exstrophy of the bladder, sever it from its attachments, and close the abdominal wall above it as far as it goes. The contact of large wound surfaces secures nutrition, while if the circulation on the

intestinal fragment is kept up by a small mesenteric pedicle only (as in Tizzoni's experiments) necrosis can hardly be avoided. And even when union is successful atrophy is to be expected under the circumstances.

Another experiment referred to in the same article was the substitution of the vermiform appendix for ureteral defect, after the same principles. It consisted in dividing the right ureter and uniting its upper fragment with the appendix after the removal of its tip, so that the urine could be discharged into the intestine. After the lapse of a month the abdomen was reopened, the appendix removed near its base and united with the lower end of the ureter.

Regarding unilateral implantation of the ureter, as it becomes indicated in defects caused by destructive processes, like tuberculosis or carcinoma of the bladder, or by tumors, vesicovaginal fistula with destruction of ureter, ureteral fistula or trauma, I find that the stenosis is best avoided by splitting the lower end of the ureter so that two flaps are formed which, like two wings of a folding door, are placed into the slit made in the bowel. The ends are made triangular so that a rhomboid figure is attained when the flaps are fastened to the bowel. The large surfaces thus created favor agglutination.

37 EAST THIRTY-FIRST STREET.

THE SURGICAL TREATMENT OF FLOATING KIDNEY, WITH DESCRIPTION OF OPERATION AND REPORT OF CASES.*

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At a meeting of this association in Atlanta, I reported two cases of combined appendectomy and nephropexy through the same incision, abdominal. Both these cases have remained cured.

Later, Pryor, of New York, reported a series of combined operations, through a lumbar incision, giving me full credit for my work.

I was not satisfied with any of the operations then being performed. I felt that sutures through the capsule, in situ, including the substance of the kidney, were wrong and that such operations must eventuate in many failures. The opportunity to observe some such failures has accentuated my feeling against this class of operations.

A review of the literature of floating kidney reveals the greatest diversity of opinion, surgeons recommending various operative procedures, many physicians arguing against all operations and recommending impossible bandages that only exceptional patients of great endurance and unlimited perseverance ever learn to wear with even a degree of comfort.

Evidence of unquestioned character is constantly accumulating in favor of surgical intervention in properly selected cases. Undoubtedly many incomplete cures are due to failure on the part of the operator to recognize and correct associated pathological conditions. The operations suggested and done by Henry Morris, Mayo Robson, Senn, Fer-

* Read before the Southern Surgical and Gynecological Association.

After removing the kidney, the capsule is removed, the hilum is closed, and the capsule is replaced. The capsule is then sutured to the surrounding tissue, and the incision is closed.

The patient is placed in a modified Sims position, resting on a sandbag, or Edebohls cushion, to insure the most between the last rib and iliac crest. An incision is made beginning just back of anterior border of erector spinæ, immediately below the twelfth rib, extending obliquely to about one inch behind the anterior superior iliac spine, down to the deep fascia. A short cut one and one half to two inches long is next made, in the same direction, beginning just over the anterior border of erector spinæ, through the fibres of the latissimus dorsi.



Fig. 1. Showing the incision through the latissimus dorsi muscle, exposing the fatty capsule of the kidney. The patient is in a modified Sims position, resting on a sandbag, or Edebohls cushion, to insure the most between the last rib and iliac crest. An incision is made beginning just back of anterior border of erector spinæ, immediately below the twelfth rib, extending obliquely to about one inch behind the anterior superior iliac spine, down to the deep fascia. A short cut one and one half to two inches long is next made, in the same direction, beginning just over the anterior border of erector spinæ, through the fibres of the latissimus dorsi.

until I worked out the operation about to be described. Reference to the accompanying descriptions, photographs and drawings will show that the tumors are removed with great care.

One of the most annoying postoperative complications is a persistent neuralgia, which affection I have not been able to avoid. It is always due to injury to the iliohypogastric and ilioinguinal nerves, which cross the field of operation. These nerves are often cut, or included in the sutures. They can, however, be avoided by a little watchful care.

The patient is placed in a modified Sims position, resting on a sandbag, or Edebohls cushion, to insure the most between the last rib and iliac crest. An incision is made beginning just back of anterior border of erector spinæ, immediately below the twelfth rib, extending obliquely to about one inch behind the anterior superior iliac spine, down to the deep fascia. A short cut one and one half to two inches long is next made, in the same direction, beginning just over the anterior border of erector spinæ, through the fibres of the latissimus dorsi.

The deep fascia and transversalis fasciæ are cut and the incision is extended. The latissimus dorsi, the erector spinæ and the quadratus lumborum are pulled back, and the abdominal obliques are exposed. To this point the operation is similar to the muscle splitting operation of McBurney. This freely exposes the fat and the fatty capsule of the kidney. The fatty capsule is then removed, and the kidney is delivered. The fatty capsule is then sutured to the surrounding tissue, and the incision is closed.

A flap of the fatty capsule about one and one half inches wide, on all sides is next raised from the posterior surface of the kidney, beginning just in front of the hilum, separated from the cortex by careful dissection, to the convex border of the kidney. The capsule is incised along the convex border of either pole of the kidney, reflected toward the hilum, thus completely exposing the posterior surface of the organ.

Two mattress sutures are next inserted, somewhat similar to the method of Bradle, through capsule just in front of hilum, including the reflected flaps. (See Fig. 4.) These sutures with the suspensory ligament made from the reflected posterior fibrous capsule, hold the kidney high up, well back in the hollow of the loin, nearer in its normal position than any operation I have done, or with which I am familiar.

The fatty capsule pushed in front acts as a protecting cushion. The raw posterior surface adheres firmly. The kidney is next replaced, the mattress catgut sutures passed deeply through the posterior muscles, in front of the ilioinguinal nerve and tied over muscles but underneath fat and skin. A heavy catgut suture is next passed through either angle of the flap (suspensory ligament) so as to approximate the separated muscles and cut fasciæ. A cigarette drain is placed between these sutures to the raw surface of the kidney. The muscles and fasciæ are accurately closed with catgut, above and below these sutures. The skin and superficial fat are accurately approximated by interrupted silkworm gut sutures, with a needle on each end, passed from within out, each suture taking a good bite of deep fascia and muscles. A few catgut sutures are put between the



Fig. 2. Showing the incision through the latissimus dorsi muscle, exposing the fatty capsule of the kidney. The patient is in a modified Sims position, resting on a sandbag, or Edebohls cushion, to insure the most between the last rib and iliac crest. An incision is made beginning just back of anterior border of erector spinæ, immediately below the twelfth rib, extending obliquely to about one inch behind the anterior superior iliac spine, down to the deep fascia. A short cut one and one half to two inches long is next made, in the same direction, beginning just over the anterior border of erector spinæ, through the fibres of the latissimus dorsi.

silkworm gut sutures where necessary to approximate the skin.

The wound is dressed with gauze wrung out of hot salt solution and absorbent cotton, held smoothly in place by broad adhesive strips, with an abdominal binder over all. The dressing is changed daily until the drain is removed, usually in twenty-four or forty-eight hours, according to amount and character of drainage. After the drain is removed a dry sterile dressing is put on and allowed to remain until time to remove the sutures, seventh to ninth day.

The patient is kept on back or operated side for two weeks and in bed for three to four weeks. A well fitted abdominal supporter, properly padded, is recommended to be worn, from three to six months. It is a valuable adjunct to the operation. The supporter tends to correct any coexisting enteroptosis, inspires confidence and makes it difficult to wear a tight corset.

No operation that I perform gives more gratify-



FIG. 3.—Kidney being delivered by traction on the fat and cellular tissue by successively catching with a good sized forceps or small clamp, the kidney not being pressed upon or handled.

ing results than does anchoring a kidney as above described.

The cases herein reported show other pathological conditions corrected at the same séance, *e. g.*: chronic appendicitis, Cases I, II, IV, IX, X, XII, XIII, XIV, XVI, XVII, and XVIII.

In Case V the movable kidney might have been overlooked when the appendix was removed in a former operation, performed in July, 1904.

In Case XIX I removed the appendix two years previously, but while the floating kidney was recognized, the patient's condition under the anæsthetic was such as to make prolongation of anæsthesia hazardous.

The frequent association of floating kidney and chronic appendicitis, as pointed out by Dr. George Ben Johnston and others, is corroborated by my experience.

CASE I.—Mrs. J. W. R., age thirty-four. Admitted to St. Joseph's Infirmary January 4, 1904, with the following history: Usual diseases of childhood; she always suffered from dysmenorrhœa; has an only child now eleven years old, and did not menstruate for two years after its birth; she took local treatment a year ago, and suffers from nervous headaches.

Two months ago she was taken with general abdominal pain, worse over the appendix; of this she was relieved in twenty-four hours, when she got up, but soreness remained for four or five days. Twelve days later she had a similar attack that kept her in bed for four days from soreness, although the pain only lasted for four hours. Four weeks ago she had a third attack and remained in bed until brought to the infirmary.

Operation on January 5, 1904, under nitrous oxide gas and ether anæsthesia. Oblique incision made over

right kidney, which was near umbilicus, and was brought out of the wound by Ferguson's method; the kidney was very large, with marked adhesions. After the fat was pushed in front of the kidney, a flap one and a half by one and a half inches, was cut from the posterior surface of the capsule, with its base just at the anterior surface and outer border of the kidney. An incision was now made along the outer border of the kidney and the capsule reflected on each side, posteriorly to the cut edge for flap. A mattress suture now being placed in each angle of this posterior cut surface (from whence the anterior flap was cut) and the loosened capsule, and the kidney returned to position, it was held snugly against the muscular wall when the sutures were passed and tied. The muscles were closed with No. 2 plain catgut sutures, and the anterior flap being fixed between them by two muscular sutures, passed through its angles. A cigarette drain was introduced along this flap to the raw surface of the kidney, and the skin wound closed by a few silkworm gut and catgut sutures. Appendectomy. A small gridiron incision was made, and the appendix, with its distal end enlarged and thickened, with adhesions over appendix and cæcum, was easily found and amputated by the Doye method. Abdomen closed in layers with catgut.

Restoration to health was complete, and continues so to date.

CASE II.—Mrs. J. C. H., age thirty-five. Admitted to St. Joseph's Infirmary on January 13, 1904, with the following history: An operation had been performed one year ago for lacerated cervix and hæmorrhoids. One year after her first child (ten years ago) was born she had an attack of violent pain, like colic, in the right side of the abdomen, when a lump was also found in the right side, "which the doctor said was a tubal



FIG. 4.—Showing flap, one and a half inches square, cut from the posterior surface of the capsule and turned forward; mattress sutures placed through angles or above cut surface, and base of reflected posterior capsule ready to be sutured to the under surface of the muscles; also forceps holding capsule, which is reflected to near hilum of the kidney

abscess that later discharged through a pregnant uterus!" Since then she has had almost constant headache; felt the tumor in side at times and had similar attacks of pain which she took to be ovarian, but she was conscious of two distinct kinds of pain. She never vomited, but had nausea. Has not been able to walk much without pain for years, and riding was a torture.

Operation on January 14, 1904, under nitrous oxide gas and ether anæsthesia. Nephropey, as in Case I.

Appendectomy, with removal of appendix, was found normal, with no adhesions to the jejunum, and abdominal organs in place. (Some adhesions and scars shown.)

Examination of the right kidney after operation on the left kidney showed a normal position and no adhesions to the jejunum.

Case III.—Mrs. M. W., age fifty. Admitted to the Halyon Hospital on January 10, 1904, with the



Fig. 5.—Nephropexy completed, showing the normal position of the right kidney. The right kidney is shown in its normal position, with the jejunum and other abdominal organs in place. A cigarette is used as a guide for the position of the right kidney.

following history: Trachelorrhaphy and perineorrhaphy done May, 1903. In July, 1903, she received a fall from which she suffered six hours, since then she has constant aching pain in the region of the right kidney, which pain increased while walking and only stopped when she rests at night. Operation on January 10, 1904, under nitrous oxide gas and ether anesthesia. Nephropexy as in Case I. Patient was well on February 1, 1904. There was complete relief on the right side, but she had a fall and displaced the left kidney. I have not heard from her since.

Case IV.—Mrs. D. H. W., age thirty-two. Admitted to the Halyon Hospital, with the following history: An operation was performed during January, 1900, when left pyosalpinx was removed and many intestinal adhesions were relieved. After this, she regained her health rapidly for three months, when she caught a cold and had a prolonged cough, tuberculosis being suspected, but this became all right after throat treatment. For past two or three years she has been having pain in region of her right kidney, lasting for two or three days at a time. During the past year she has had almost constant aching. During the past three months she has often found the kidney about umbilicus, and would push it back into place. When it was out of place she would get very nervous and get deathly sick. For the past two years she has eaten very little food; the smallest amount causing pain under the right border of the liver. During the past ten months she has passed pus from the bladder several times.

Operation on March 20, 1904, under chloroform anesthesia. Nephropexy, as in the stated cases. The kidney was found to adhere to the wall of the abdomen, and was removed from the wall of the ilium; there was also marked adhesions. Appendectomy: Gridiron incision was made, but had to be enlarged upward on account of adhesions and unusually dilated appendix being under tension in the wall.

Post-operative condition on May 1st. She has remained in good health, and has remained within the past ten days. The kidney was found to be in normal position and was free from adhesions.

Case V.—Mrs. J. L., age twenty-seven. Admitted to the Halyon Hospital on March 20, 1904, with

the following history: An operation was performed during the month of July, 1903, for appendicitis, having had attacks of abdominal pain during the previous year. She suffered with great pain in the right kidney for two days following the operation for appendicitis. Patient was then perfectly comfortable for two months when she suffered from a stone passing from the right kidney to the bladder. Since then she has had frequent sharp pain in the right kidney with frequent painful urination. The urine has contained a varying amount of pus, blood, and renal epithelium. Her bladder was irrigated now and then with saline and adrenalin solution and she became practically easy.

Operation on April 6, 1904, under kelene ether anesthesia. Nephropexy was performed as in Case I. The kidney was not completely delivered on account of marked adhesions, friable capsule, and a state of spasm of the muscles, that was maintained throughout the operation. Trachelorrhaphy. Complete relief from kidney and digestive disturbances. Since then her general health is good.

Case VI.—Mrs. N. McQ., age fifty. Admitted to St. Joseph's Infirmary on September 3, 1904, with the following history: Patient had malarial fever when she was thirty, is the mother of five children, and was lacerated and torn by the birth of the first. After the third child (twenty-two years ago) she was in poor health for a year; ten years ago, after the birth of the last child, she was in bed several weeks with jaundice and puerperal fever; previous to five years ago she was subject to "cramp colic;" this spring and summer she has had a "general run down feeling," backache, leu-



Fig. 6.—Scar wound closed with silk worm gut, and catgut suture. The catgut suture was passed from within outward; catgut suture was used inside of the wound.

corrhoea, nervousness, and when she wakes in the morning does not feel rested.

Operation on September 8, 1904, under nitrous oxide gas and ether anesthesia. Perineorrhaphy and nephropexy, as in Case I. Kidney delivered easily; capsule adherent in places. (No. 1 chromic catgut was used in this operation; K. T. having been used in the others.) The condition was good when last heard from, two months after operation.

Case VII.—Mrs. M. K. Operation performed in

Grady Hospital on September 21, 1903. Right femoral herniotomy (silver filigree used), and right nephropexy with delivery, flap, and suturing as in the previous case. I lost sight of this patient.

CASE VIII.—Mrs. J. O. G., age thirty-four. Admitted to St. Joseph's Infirmary on October 24, 1904, with the following history: She had to stop to go to school when eighteen years on account of anæmia and nervousness, but regained strength after two years. Patient had long labor with first child (eleven years ago), and regained strength slowly; eighteen months later was again delivered of a baby and was lacerated and torn; during her third pregnancy she had extreme nausea and pain in uterus for three months; two miscarriages followed. She came very near dying in the spring of 1903 from dysentery. For the past ten years she has suffered from pain in the stomach and right side of abdomen, when she was "worn out;" was frequently in bed a day or two, especially after an undue exercise. Last fall she was in bed for two days from acute pain in appendical region, and was very sore after getting up. She had a right floating kidney for five years.

Operation done on October 26th, under nitrous oxide gas and ether anæsthesia. Trachelorrhaphy, perineorrhaphy, and nephropexy; large kidney delivered with some difficulty on account of size and adhesions. Ferguson delivery, McRae flaps and suturing. The recent report was that her condition was much improved.

CASE IX.—Miss O. B., age nineteen. Admitted to St. Joseph's Infirmary on November 7, 1904, with the following history: Four or five years ago she commenced to menstruate, the menses coming on every two months, lasting seven days. Since then she has had backache all of the time, the side being worse at the menstrual time; walking caused pain in the right side of abdomen, and especially marked in the right lumbar region. Nine months ago while in bed with a "sick stomach" she was taken with severe colic, which lasted twelve hours. Appetite has remained poor and patient can walk but little on account of the pain in back and dragging over appendix.

Operation was performed on November 7th under nitrous oxide gas and ether anæsthesia. Appendectomy and nephropexy done as in the previous operations, but the kidney was not completely delivered. Complete cure to date.

CASE X.—Mrs. J. P. H., age twenty-five. Admitted to St. Joseph's Infirmary on March 22, 1905, giving the following history: Typhoid fever when sixteen years old; left phlebitis and enlarged inguinal glands after first labor, two years ago. Threatened with miscarriage throughout labor, and had puerperal fever after delivery, eight months ago, when she had considerable pain in bladder and right side of abdomen, being in bed for four weeks. Left pleurisy two months ago. Last fall while turning over on her left side she felt her right kidney fall forward.

Operation performed on March 25th, under nitrous oxide gas and ether anæsthesia. Curettement and trachelorrhaphy, nephropexy; capsule badly adherent, operation as in Case I. Appendectomy: McBurney gridiron. (No. 2 plain catgut was used in this case, and in all cases following.) Patient left for her home on April 10th, and reported complete restoration to health.

CASE XI.—Mrs. A. E. C., age forty. Admitted to St. Joseph's Infirmary on April 27, 1905, giving the following history: From fifteen years of age she suffered from severe headaches, "which caused her a slow pulse." Suffered from acute articular rheumatism nearly all winter, when she was twenty, with short attacks since. Patient was eighteen months recovering strength from dengue fever which she had when about twenty. She is the mother of four children, and was lacerated by the birth of her first. During the

birth of one of her children (?), she felt something pull loose in the region of the left kidney, and since then she has had more or less dragging in that side of the abdomen which she attributed to curvature of the spine, from which she has been a sufferer since nine years of age. Nausea and pelvic peritonitis during pregnancy, which terminated in miscarriage eleven months ago, since when she has been in bed with heaviness and pain in left side of pelvis, and almost continuous headache.

Operation performed on April 29th, under nitrous oxide gas and ether anæsthesia. Nephropexy (left), capsule badly adherent, kidney bled freely; delivery, flap, and suturing as described. Laparotomy; both tubes resected, small cysts of ovaries excised and raw surface closed. Patient went home on May 11th. Her condition is greatly improved and is constantly growing better.

CASE XII.—Mrs. C. M., aged thirty-three, was admitted to St. Joseph's Infirmary on June 14, 1905, with the following history: Her mother died of some rectal trouble. She has had no special sickness, but has not felt well for several years; has had a pain in back and a dragging from right side of back. Dysmenorrhœa each month.

Operation performed on June 17th under nitrous oxide gas and ether anæsthesia. Right nephropexy as shown in Case I. Laparotomy, appendectomy, and cysts excised from left ovary and raw surface sutured. Layer closure. Patient left this country for England in October much improved.

CASE XIII.—Mrs. E. F. R., age twenty-nine. Admitted to St. Joseph's Infirmary on August 15, 1905, with the following history: Patient suffered from indigestion until sixteen years old. At that age, after playing tennis, she had some uterine displacement causing her to limp. At twenty she was given "local treatment" for pelvic pains, and was in bed four months thereafter with general abdominal tenderness, distention, nausea and vomiting, and "legs contracted upon abdomen." She was treated four years ago for stomach trouble when she was told she had a floating kidney. Always conscious of an abdomen, with soreness and tenderness on the left side. Last year the right kidney dragged badly. This spring she had frequent attacks of nausea. Two weeks ago she was in bed ten days from nausea and vomiting.

Operation performed on August 16th under nitrous oxide gas and ether anæsthesia. Nephropexy; oblique incision, muscles separated nicely; kidney came up well by Ferguson method, fat, not marked; capsule thin, but stripped off readily; McRae flap and suturing; cigarette drain introduced and wound closed with three silk worm gut and a few catgut sutures. Appendectomy: McBurney gridiron. Her condition is much better, and gradually improving.

CASE XIV.—Mrs. W. W. B., age thirty-one. Admitted to Grady Hospital on August 26, 1905, giving the following history: Patient had hip joint trouble from four to nine years of age. Menstruation began at eleven, and has always been painful and irregular. She has one child, two years old, another five, and had one miscarriage two years ago. "Invalid" since her first child, when cervix was lacerated and perinæum torn; three months after labor she had prolapsus uteri, which gave her much trouble until this year. Since her miscarriage, two years ago, the nervousness has increased. But she builds up her health in the summer and falls off in the winter. Spring of 1904 she felt a movable tumor in right side of abdomen, which has had a large range of motion this year. She had a dragging in pelvis, and left ovary often pained her, especially after walking. For the past few years she has had a "spasmodic cramp colic" in right side of abdomen, almost always excited by eating or drinking. Some rectal

condition with the opening of uterus for the past six

months. She was admitted on August 10th under nitrous oxide gas and ether anæsthesia. Nephropexy, the left ovary being removed with cysts, and both ovaries excised. Appendectomy; appendix found in a state of inflammation, which was excised by Doyen method. The patient then recovered.

CASE XV.—Miss H. M., age thirty. Admitted to Piedmont Sanatorium on November 1, 1905, with the following history: Her father died of cancer of the bladder, she had gonorrhea, and a tumor of the left ankle when thirteen years old. From the past three years has been having attacks of weakness, caused by pain in the right side, which is relieved after eating or drinking. From the last six months she has been unable to eat malted milk, on account of pain coming on an hour after eating. There is a tumor on the right side of the abdomen "the size of her fist" in the right side of the abdomen. Thus gave her no pain, except when lying on the left side and then it caused a dragging in the right side. Patient has had a great deal of backache, and has been unable to walk during the past year. There is a trace of hydrochloric acid, and a small amount of lactic acid in the stomach contents. The patient is healthy at present, and the stomach is dilated almost to the pelvic brim.

Operation performed on September 2nd, under nitrous oxide gas and ether anæsthesia. Nephropexy as in Case I. Kidney was very large. Her improvement is remarkable. She has increased in weight from 112 to 140 pounds, and has the stomach in position.

CASE XVI.—Mrs. H. W. L., age thirty-six. Admitted to Piedmont Sanatorium on September 4, 1905, with the following history: Patient had malaria when twelve years old, peritonitis after childbirth in 1895, and was in the house for three months. She has had pain in the right side every now and then since. She had nausea and vomiting during December, 1902, and for eight days she had pain in stomach, and would vomit up contents soon after eating. Since then she has frequently pain or a fullness two hours after a meal. During the summer of 1904 she had diarrhœa. Four weeks ago she began having pain in the stomach, back, and right shoulder after eating. Hydrochloric acid is in excess in the stomach, while absorption and size of stomach are normal.

Operation performed on September 5th under nitrous oxide gas and ether anæsthesia. Nephropexy, an abdominal myomectomy, and a low, long appendix, with adhesions removed, and cysts excised from right ovary. Patient left the sanatorium on September 27th. There is complete relief and continuous improvement to date. She can walk several miles without fatigue, as she stated.

CASE XVII.—Mrs. S. J. R., age twenty-five. Admitted to Piedmont Sanatorium on October 10, 1905, giving the following history: Patient never had any severe sickness, but chills and fever four years ago. During January, 1905, she was in bed several days with pain in back and heaviness in hypogastric region, due to menstruation stopping from catching cold. She was troubled with indigestion during the past year, and during the last three months she has had an uneasy feeling in the right lower region, with pain more marked in the right lower region.

Operation performed on October 15th under nitrous oxide gas and ether anæsthesia. Nephropexy; kidney removed, and adhesions, and bled freely. Appendectomy; appendix removed. Right and left ovaries removed. Laparotomy; appendectomy, and suturing of left ovary after excision of several cysts. Her condition is good, and she is improving rapidly.

CASE XVIII.—Mrs. P. A. A., age twenty-five. Admitted to Piedmont Sanatorium on October 21, 1905, with the following history: Patient was never strong as a child; had diphtheria at seven, pneumonia at twelve, and malarial fever during girlhood. She has one child, eight years old. When this child was a year old she was sick for three or four weeks with a severe cold, and has never been in good health since. Troubled with fainting and nervous attacks, from which she was in bed five months, three years ago. She suffers from a heavy dragging in pelvis, shooting pains down the thighs, and some backache, all being increased by being on feet.

Operation performed on October 25th under nitrous oxide gas and ether anæsthesia. Nephropexy; easy delivery of kidney, though a good many adhesions. Flap and suturing as in Case I. Dilatation and curettement. Laparotomy; right ovary the size of an orange; this ovary and tube removed. Appendectomy: Appendix had long bands of adhesions over it, and was amputated by Doyen method. Patient is improving.

CASE XIX.—Miss A. H., age twenty-five. Admitted to Piedmont Sanatorium on November 9, 1905, giving the following history: Patient had typhoid pneumonia about five years ago, malarial fever three years ago, and was operated upon two years ago for appendicitis after the fifth attack. Two and a half years ago while jumping two feet she had a bloody vaginal discharge for two days, but was in her usual health until May, 1905, when she began having cramping pains in the right hypochondriac region, nausea and vomiting, this attack lasting three days, a second attack of ten days followed, and three others of three or four days duration. She had some fever the first day, with last attack three weeks ago. Passes some mucus from bowels after attacks, and the urine is very scanty for several days and difficult to void. Has lumbar backache and frontal headache at times, and dull heavy pain and uneasy sensation in right hypochondriac region all of the time. Tenderness marked over gall-bladder region; floating kidney.

Operation performed on November 10th under nitrous oxide gas and ether anæsthesia. Nephropexy as in Case I. Ear clamp used and two piles excised and sutured. The relief is complete.

In these nineteen cases the wounds have healed by primary union; the stitches being removed about the seventh day and the drainage from twenty-four to ninety-six hours, depending upon the amount of resistance. In no case has there been any after drainage or suppuration, except in Case X, where there was a slight urinary drain for a few days after the gauze was removed and a seropurulent discharge from drain tract for about two weeks thereafter. All kidneys have been of the right side, except in Case XI.

PETERS BUILDING.

MYOMECTOMY.

By CHARLES P. NOBLE, M. D.,

PHILADELPHIA,

CHIEF CLINICAL LECTURER ON HOSPITAL FOR WOMEN,
GYNECOLOGIST TO THE STETSON HOSPITAL.

The earliest operations for the removal of fibroid tumors of the uterus were myomectomies. The pioneers were not at all influenced by the principles of conservatism, as we now understand this term, but removed the tumor alone, leaving the uterus, in the belief that it was a safer procedure than hysterectomy. The first deliberate removal of a fibroid tumor was performed by

CHART I.

| No. | Date and Name | Family Physician. | Diagnosis. | Operation. | Result. | Discharged | Subsequent History |
|-----|--------------------------------|----------------------|--|---|---------|-----------------------|--|
| 1 | June 21, 1890
Mrs. G. F. | R. J. Hess | Sloughing submucous fibroid in vagina; two and a half inches in diameter. | Vaginal myomectomy. | Rec. | Hospital | Made good recovery; no pregnancies; seen 1905. |
| 2 | June 25, 1890
Mrs. J. G. | | Fibroid polypus; hemorrhoids. | Dilatation and curettage; ligature of hemorrhoid thrombi; vaginal myomectomy. | Rec. | Hospital | |
| 3 | Sept. 1, 1890
Miss B. B. | | Fibroid polypus. | Dilatation and curettage; vaginal myomectomy. | Rec. | Hospital | Subsequent bilateral ovariectomy for ovarian tumors. |
| 4 | Jan. 5, 1891
Mrs. S. J. H. | | Fibroid polypus. | Vaginal myomectomy. | Rec. | Hospital | |
| 5 | Jan. 17, 1891
Mrs. S. | | Fibroid polypus. | Vaginal myomectomy. | Rec. | Hospital | |
| 6 | Feb. 14, 1891
Miss R. O. | T. J. Saltmarsh | Sloughing submucous fibroid, stretching into vagina. | Vaginal myomectomy. | Rec. | Private | Married and had one child. |
| 7 | July 25, 1891
W. | | Fibroid polypus. | Curettage; vaginal myomectomy. | Rec. | Hospital | |
| 8 | Sept. 27, 1892
Mrs. E. L. | | Fibroid polypus. | Vaginal myomectomy. | Rec. | Hospital | |
| 9 | Oct. 16, 1893
Mrs. S. | | Fibroid polypus. | Vaginal myomectomy. | Rec. | Hospital | |
| 10 | June 29, 1894
Mrs. C. D. | | Sloughing fibroid polypus. | Vaginal myomectomy. | Rec. | Hospital | No pregnancy; no recurrent tumor; good health 1905. |
| 11 | June 12, 1895
Mrs. H. I. | Dr. I. Leopold | Intercystic fibroma, incarcerated peritonium. | Vaginal myomectomy; trachelorrhaphy; perineorrhaphy. | Rec. | Hospital | Good recovery; widow; no pregnancies; no recurrence. |
| 12 | July 7, 1895
Mrs. M. M. | | Submucous fibromyoma uteri. | Vaginal myomectomy; lig. of uterine arteries; amputation of cervix. | Rec. | Hospital | |
| 13 | Dec. 4, 1895
Mrs. B. F. L. | Caroline M. Purnell | Submucous cervical fibroid. | Vaginal myomectomy; trachelorrhaphy; perineorrhaphy. | Rec. | Private | Good recovery; no recurrence; no pregnancy. |
| 14 | Jan. 23, 1896
Mrs. M. L. | R. H. Beck | Submucous fibroid. | Vaginal myomectomy; trachelorrhaphy. | Rec. | Hospital | Good recovery; no recurrence; no pregnancy. |
| 15 | Feb. 12, 1896
Mrs. G. A. S. | Thomas Cope | Fibroid polypus. | Vaginal myomectomy; trachelorrhaphy; perineorrhaphy. | Rec. | Hospital | No children; no recurrent tumor. |
| 16 | April 27, 1896
Miss J. C. | F. E. Himmelwright | Submucous fibroid. | Vaginal myomectomy; trachelorrhaphy. | Rec. | Hospital | No recurrence; good recovery. |
| 17 | June 27, 1896
Mrs. H. M. | W. E. Robertson | Submucous fibroid. | Vaginal myomectomy; cervix split. | Rec. | Hospital | Good recovery; no recurrence; no pregnancy. |
| 18 | Jan. 9, 1897
Mrs. E. R. | T. E. Conard | Sloughing intrauterine fibroid. | Vaginal myomectomy; division and suture of cervix. | Rec. | Hospital | Good recovery; no recurrence; no pregnancy; widow. |
| 19 | Jan. 9, 1897
Mrs. A. P. | F. G. Cooper, D.D.S. | Submucous cervical fibroid. | Vaginal myomectomy. | Rec. | Hospital | Good recovery; no recurrence; no pregnancy. |
| 20 | Jan. 20, 1897
Mrs. F. S. | Wm. T. Sharpless | Submucous myxomatosus fibroma. | Vaginal myomectomy. | Rec. | St. Joseph's Hospital | Died some years later. |
| 21 | Mar. 24, 1897
Mrs. G. | | Sloughing fibroid polypus. | Vaginal myomectomy. | Rec. | Hospital | |
| 22 | Mar. 25, 1897
Mrs. J. B. | | Submucous fibroid. | Vaginal myomectomy. | Rec. | Hospital | Died March 8, 1900. |
| 23 | April 23, 1897
Mrs. E. B. | | Submucous fibroid; incarcerated perineum. | Vaginal myomectomy; perineorrhaphy. | Rec. | Hospital | Good recovery; no recurrence; no pregnancy. |
| 24 | Jan. 27, 1898
Miss M. O'D. | | Elongated fibroid; cervical polypus. | Vaginal myomectomy; cervix split, dilated, curetted, sutured. | Rec. | Hospital | |
| 25 | June 27, 1898
Mrs. L. R. | | Submucous fibromyoma uteri. | Vaginal myomectomy; trachelorrhaphy. | Rec. | Hospital | |
| 26 | Aug. 17, 1898
Mrs. W. | | Sloughing fibroid polypus. | Vaginal myomectomy. | Died | Hospital | Death due to embolus (?) |
| 27 | June 10, 1899
Mrs. R. | | Fibroid polypus. | Vaginal myomectomy. | Rec. | Hospital | |
| 28 | Sept. 9, 1899
Mrs. M. C. | | Fibromyoma uteri; submucous. | Vaginal myomectomy. | Rec. | Hospital | |
| 29 | Mar. 12, 1900
Mrs. M. | | Sloughing fibroid polypus. | Vaginal myomectomy. | Died | Hospital | Death due to an endocarditis. |
| 30 | Oct. 11, 1900
Mrs. S. | | Sloughing submucous fibromyoma uteri, two and a half inches; adenocarcinoma uteri. | Vaginal myomectomy. | Rec. | Private | Died some weeks later of nephritis. |
| 31 | Oct. 19, 1900 | | Submucous cervical fibroid. | Vaginal myomectomy; removed by anterior colpotomy. | Rec. | W. C. Hospital | |
| 32 | Mar. 4, 1901
Miss E. E. | Dr. Ruhl | Uterine fibroid polypus, extruded into vagina. | Vaginal myomectomy. | Rec. | Hospital | Good recovery; later a hysterectomy for uterine fibroid nodules which were present before first operation. |
| 33 | Sept. 9, 1901
Mrs. T. A. G. | | Small fibroid polypus. | Vaginal myomectomy. | Rec. | Hospital | |
| 34 | Dec. 17, 1901
Mrs. T. A. G. | | Small fibroid polypus. | Vaginal myomectomy. | Rec. | Private | Hysteromyomectomy for adenomyoma, April 7, 1902; tumor present when fibroid polypus were removed. |
| 35 | Jan. 11, 1902
Mrs. J. U. | | Large submucous fibromyoma uteri; sloughing. | Vaginal myomectomy. | Rec. | Hospital | |
| 36 | Feb. 1, 1902
Mrs. K. | | Necrotic submucous fibromyoma. | Vaginal myomectomy. | Rec. | Hospital | |
| 37 | Mar. 30, 1902
Mrs. L. S. | | Submucous fibromyoma uteri; sloughing. | Vaginal myomectomy. | Rec. | Hospital | |
| 38 | Nov. 3, 1902
Mrs. R. H. | | Submucous fibromyoma uteri; sloughing. | Vaginal myomectomy. | Rec. | Hospital | |
| 39 | Dec. 10, 1902
Mrs. E. E. | | Large submucous fibromyoma, beginning necrosis. | Vaginal myomectomy. | Rec. | Hospital | Good recovery; no recurrence; no pregnancy; widow. |
| 40 | Feb. 27, 1903
Mrs. P. P. | | Small submucous fibromyoma, left anterior wall. | Vaginal myomectomy. | Rec. | Hospital | Good recovery; no recurrence; no pregnancy. |
| 41 | June 20, 1903
Mrs. W. H. H. | | Submucous fibromyoma uteri. | Vaginal myomectomy. | Rec. | Hospital | Hysteromyomectomy October 11, 1903; recovered; tumor present when fibroid polypus was removed. |
| 42 | Oct. 17, 1903
Mrs. E. M. | | Submucous fibromyoma uteri; pregnancy. | Vaginal myomectomy. | Rec. | Hospital | |
| 43 | Jan. 25, 1904
Mrs. J. R. | | Submucous fibromyoma uteri. | Vaginal myomectomy. | Rec. | Hospital | Good recovery; no recurrence; no pregnancy. |
| 44 | Jan. 18, 1905
Mrs. C. F. | Rolla L. Smith | Submucous fibromyoma uteri. | Vaginal myomectomy. | Rec. | Hospital | |

Atlee, in 1844 (Atlee, J. C., *History of the Surgical Treatment of the Uterus and Vagina*, 1844, p. 100). He removed a fibroid tumor, which was in the early stage of the disease, and which was the cause of the patient's suffering. He removed the tumor, and the patient recovered. He removed a fibroid tumor, which was in the early stage of the disease, and which was the cause of the patient's suffering. He removed the tumor, and the patient recovered. He removed a fibroid tumor, which was in the early stage of the disease, and which was the cause of the patient's suffering. He removed the tumor, and the patient recovered.

Washington T. Atlee was the next surgeon to take up this field of work, and he continued to cultivate it throughout a long life, resorting both to the vaginal and by the abdominal route. He usually, if not invariably, removed the tumor alone. Atlee's work was that of an originator, and because of his lifelong relation to operations for fibroid tumors, as well as to abdominal surgery in its formation period, he must be considered the first and greatest pioneer in this field. His first operation for fibroid tumor and his first abdominal myomectomy was performed in 1844 (Atlee, Washington T., *Case of Successful Extirpation of a Fibrous Tumor of the Peritoneal Surface of the Uterus*, *Arch. Jour. of the Med. Assoc.*, Vol. 18, 1844, Series, April, 1845, No. 5, p. 300, Vol. ix). His first operation by the vagina was performed in 1845 (Atlee, Washington T., *Prize Essay. The Surgical Treatment of Certain Fibrous Tumors of the Uterus Heretofore Considered Beyond the Resources of Art.* *Trans. of the Amer. Med. Assn.*, Vol. xiv, p. 35, 1853).

His first operation for fibroid tumor and his first abdominal myomectomy was performed in 1844.²

At the present time myomectomy must be contrasted with hysteromyomectomy, and the chief points of comparison are the relative dangers of the two operations, and the fact that myomectomy leaves the woman with all of her sexual organs, whereas hysteromyomectomy as usually performed leaves her without uterus and ovaries, and without the possibility of maternity, and also brings about the cessation of menstruation. It is true that menstruation is preserved by one of the modifications of hysteromyomectomy practised by Zweifel, of Leipsic, which consists in leaving one or both ovaries, and amputating the uterus at a high level, so that a certain amount of the endometrium is preserved, but in this operation the possibilities of maternity are sacrificed.

As an abstract proposition, every one will agree that an operation which preserves the functions of menstruation and the possibility of conception is superior to one which sacrifices both, and yet each operation equally feasible and equally curative, hysteromyomectomy has been and is being uniformly practised. Unfortunately, the question in this form is academic and not practical. Many women with fibroid tumors have passed the menopause, others have passed the period in life when the possibility of childbearing is a matter of such importance, so that in probably the large majority of women having fibroids the preservation of the uterus from the standpoint of pregnancy is a matter of

artificial menopause must be considered. If both ovaries and the uterus are removed together with the tumor, the menopause is precipitated. It is usually alleged that the artificial menopause, as contrasted with the natural menopause, is far more troublesome, that in the former the symptoms of the normal menopause are exaggerated, and that a considerable percentage of women are made physical wrecks as a consequence of the artificial menopause.

It is my opinion, based on observation, that this view is greatly exaggerated. As a rule, the artificial menopause corresponds exactly in its symptoms to the normal menopause. In young married women who have not had children postclimacteric atrophy of the vagina at times causes serious inconvenience in the marital relations. Occasionally the hot flashes, the sweats, the tinglings, the numbness and the mental depression which are characteristic of the natural menopause are exaggerated in the artificial menopause, but I have not been able to satisfy myself that the cases with exaggerated manifestations are more common after the artificial than the natural climacteric. It is my own judgment that the extreme cases which have called attention to this question and have led to the current views, occur in highly neurotic women with an unstable nervous equilibrium, or in the type of women known as cranks. It has been proposed to leave one or both ovaries if they are healthy when hysteromyomectomy is performed. My own views upon the question of the artificial climacteric being what they are, I have practised this plan but seldom, and in the limited number of cases in which it has been followed I have not been able to observe any difference in the course of the cases from those in which both ovaries have been removed.

It is also an interesting question as to how frequently pregnancy and full term delivery occur in women upon whom myomectomy has been performed. Winter (Winter, Georg. *Die wissenschaftliche Begründung der Indikationen zur Myomoperation. Zeitschrift für Geburtshilfe und Gynäkologie*, lv, p. 49) reports that, including women under forty years of age, in eighteen cases of myomectomy for submucous fibroids, there were four conceptions, or twenty-two per cent.; in five cases of pedunculated subserous fibroids, there was one conception, or twenty per cent.; in five cases of subserous interstitial fibroids, there was one conception, or twenty per cent. In thirty-seven cases of pregnancy following myomectomy, twenty-six, or seventy-three per cent., went to term. In forty-six labors following this operation, all were normal but six, and only one case of dystocia could be attributed to the operation.

In my own experience, in forty-four vaginal myomectomies, there was one pregnancy with delivery at full term; in twenty-two abdominal myomectomies, there were two pregnancies, with one delivery at term and one miscarriage.

Summing these cases up gives a total of ninety-four myomectomies, with nine pregnancies, or about ten per cent., and considering the proportion of miscarriages, the conclusion is inevitable that, even in women of childbearing age in whom myomectomy is feasible, less than one tenth of them will bear children. Myomectomy preserves the possibility of conception, but the probability of it is slight, and in most cases the advantage to the patient lies rather

² I am indebted to Dr. William H. Keen for the information that the number of the

CHART II.

| No. | Date and Name. | Age. | Married. | Family Physician. | Diagnosis. | Condition. | Operation. | Time. | Drainage. | Course. | Temp. | Union. | Hospital. | Result. | Discharge. | Remarks. |
|-----|-------------------------------|------|----------|-------------------|--|-------------------------------------|--|-------|-----------------------|---|----------|--------------------------------------|-----------|---------|-------------------|---|
| 1 | Jan. 29, 1894. Mrs. F. | 35 | M. | — | Uterine fibroma, tumor of cervix. | Bad | Removal of both uterine appendages and solid tumor of uterus. | | Gauze | Peritonitis | Febrile | Granulation | H. | Rec. | Mar. 10, 1894 | |
| 2 | Nov. 30, 1894. Mrs. A. H. | 35 | M. | C. R. Marshall | Small fibroid; left salpingitis and ovaritis. | Fair | Myomectomy, removal of left uterine appendage. | 60 | None | Uninterrupted | Afebrile | Primary | H. | Rec. | Dec. 25, 1894 | |
| 3 | Dec. 3, 1894. Mrs. J. A. | 38 | M. | R. J. Hess | Pedunculated uterine fibroid, pregnancy two months. | Good | Myomectomy, ovum expelled on fourth day after operation. | 60 | None | Uninterrupted | Afebrile | do | H. | Rec. | Jan. 2, 1895 | One child born in 1896; good health, no recurrence. |
| 4 | July 1, 1895. Mrs. L. McW. | 43 | M. | H. M. Thompson | Double pyosalpinx; suppurating right ovary; small fibroid. | In bed 2 months; invalid for years. | Removal of both uterine appendages; myomectomy. | 60 | None | Uninterrupted | Afebrile | do | H. | Rec. | July 27, 1895 | |
| 5 | Oct. 21, 1895. Mrs. M. J. N. | 42 | M. | H. M. Thompson | Retroluxion of uterus and dense adhesions; small fibroid; left cirrhotic adherent ovary. | Good | Myomectomy; hysterorrhaphy; left appendage removed on account of hemorrhage. | 45 | None | Uninterrupted | Afebrile | Granulation; suppurating of incision | H. | Rec. | Nov. 22, 1895 | One miscarriage. |
| 6 | May 10, 1897. Mrs. H. R. | 24 | M. | — | Small fibromyoma of uterus; cystic ovaries. | Fair | Myomectomy; ovarian cyst punctured. | 38 | — | Good operative recovery | Afebrile | Primary | H. | Rec. | June 12, 1897 | |
| 7 | April 28, 1898. Miss M. H. | 36 | S. | H. M. Thompson | Fibromyoma uteri; two tumors. | Mental aberration | Myomectomy; suspension uteri. | 45 | None | Uninterrupted | Afebrile | do | H. | Rec. | May 22, 1898 | |
| 8 | July 24, 1899. Miss J. E. | 30 | S. | — | Appendix; retroversion uteri; uterine fibromyoma. | Good | Appendicectomy; myomectomy; hysterorrhaphy. | 52 | None | Uninterrupted | Afebrile | do | H. | Rec. | Aug. 8, 1899 | |
| 9 | Sept. 13, 1899. Mrs. A. S. | 35 | M. | — | Procidencia uteri; small uterine fibromyoma. | Good | Myomectomy; hysterorrhaphy. | 30 | None | Septic mania; suppurating in vagina | Febrile | do | H. | Died | Sept. 9, 25, 1899 | Died of infection of perineum. |
| 10 | Dec. 9, 1899. Mrs. M. R. | 50 | M. | — | Retroversio uteri; submucous fibromyoma. | Good | Myomectomy; hysterorrhaphy. | 44 | None | Uninterrupted | Afebrile | do | H. | Rec. | Feb. 26, 1900 | No pregnancies; no recurrence. |
| 11 | Jan. 31, 1900. Miss C. G. | 41 | S. | — | Retroversio uteri with fibromyoma. | Good | Myomectomy; hysterorrhaphy. | 30 | None | Uninterrupted | Afebrile | do | H. | Rec. | Mar. 19, 1900 | |
| 12 | Jan. 28, 1901. Mrs. M. H. B. | 41 | M. | — | Multiple pyosalpinx, with dense adhesions. | Bad | Separation of adhesions; bilateral salpingo-oophorectomy; myomectomy. | 75 | Glass, tube and gauze | Nephritis; phlebitis in veins of left leg | Febrile | Primary granulation | H. | Rec. | Apr. 6, 1901 | |
| 13 | April 15, 1901. Mrs. L. F. | 36 | M. | Dr. Longaker | Fibromyoma uteri; postoperative ventral hernia. | Good | Myomectomy; ventral herniotomy. | 70 | None | Uninterrupted | Afebrile | Primary | H. | Rec. | May 11, 1901 | No recurrence; no pregnancy. |
| 14 | June 20, 1902. Miss N. W. | 30 | S. | Dr. D. Stewart | Small unimodular fibromyoma uteri; left tube occluded. | Good | Myomectomy and left salpingectomy. | 35 | None | Uninterrupted | Afebrile | do | H. | Rec. | July 20, 1902 | No recurrence; still single. |
| 15 | Feb. 26, 1903. Mrs. E. B. | 31 | M. | — | Retroversio uteri; right prolapsed ovary; fibroid as large as a pea. | Good | Hysterorrhaphy; oophororrhaphy; myomectomy. | 50 | None | Good | Afebrile | do | H. | Rec. | Mar. 13, 1903 | |
| 16 | May 16, 1903. Mrs. E. C. S. | 37 | M. | H. B. Allyn | Procidencia uteri; multiple fibromata uteri; calcareous right ovary. | Poor; myocarditis; nephritis | Resection of right ovary; hysterorrhaphy; myomectomy. | 45 | None | Stormy nephritis | Febrile | do | H. | Rec. | June 25, 1903 | No recurrence; no pregnancy. |
| 17 | Nov. 13, 1903. Mrs. W. F. H. | 35 | M. | Geo. G. Clark | Fibroma uteri. | Good | Myomectomy. | 50 | None | Fair | Febrile | Granulation | H. | Rec. | Dec. 22, 1903 | No recurrence; one miscarriage. |
| 18 | Feb. 5, 1904. Miss E. H. | 33 | S. | I. Leopold | Unimodular fibromata uteri. | Good | Myomectomy. | 35 | None | Good | Febrile | Granulation | H. | Rec. | Mar. 13, 1904 | No recurrence; still single. |
| 19 | April 16, 1904. Miss E. R. T. | 32 | S. | — | Left ovarian cyst; pedunculated fibromata uteri. | Good | Left ovariectomy; myomectomy; hysterorrhaphy. | 80 | None | Fair | Afebrile | do | H. | Rec. | May 16, 1904 | No recurrence; still single. |
| 20 | April 28, 1904. Mrs. I. R. | 32 | M. | — | Fibroma uteri; degenerated right ovary. | Good | Myomectomy; oophorectomy. | 60 | None | Good | Afebrile | Primary | H. | Rec. | May 21, 1904 | |
| 21 | April 28, 1904. Miss R. W. | 26 | S. | I. Leopold | Unimodular fibromata uteri. | Good | Myomectomy. | 35 | None | Good | Afebrile | do | H. | Rec. | May 24, 1904 | |
| 22 | Nov. 9, 1904. Miss S. O. H. | 34 | S. | Wm. B. Scull | Fibromyoma uteri; right chronic salpingitis; right ovarian cyst; appendicitis. | Fair | Right salpingo-oophorectomy; myomectomy; appendicectomy. | 85 | None | Good | Afebrile | do | H. | Rec. | Dec. 1, 1904 | |

in the fact that the woman had the hope of conception in connection with the certainty of having lost it. From the practical standpoint, the conclusion is immediate that, so far as the question of pregnancy is concerned, it is of little moment except in the group of women who actually desire to bear children, and that in considering the question of hysterectomy versus myomectomy, it is a question which does not require further the question of pregnancy is really of small practical importance.

At a time when tumors are multiple. Two, three, four, or many fibroid tumors exist in the same uterus. Therefore, in a given case in which myomectomy is practised, there is always the possibility of overlooking any fibroids which later may develop, with the result that the last state of the woman is as bad as the first. The statistics of the latest German authorities show that in abdominal hysterectomy there was 6.4 per cent. of cases to which the further development of tumors took place, and in the subsequent tumors are included, the percentage of recurrences reaches eight per cent. In my own experience of sixty-six cases, no instance of a new development of a fibroid tumor has been encountered.

The most question of practical importance is the relative value of hysterectomy, and myomectomy in curing the patient of her symptoms. As

Winter, myomectomy is curative in seventy per cent., while the radical operation is curative in 97.3 per cent. My own experience has not been dissimilar, but as my cases for myomectomy have been rigidly selected, and as myomectomy has not been performed in cases in which its value was questionable, the proportion of cures is probably higher than the seventy per cent. given by Winter.

The relative dangers of the two operations, after all, constitute the chief basis for the selection of one operation or the other. At the Johns Hopkins Hospital there have been performed 308 abdominal myomectomies, with fourteen deaths, or a mortality of 4.5 per cent., as compared with 671 hysteromyomectomies with twenty-two deaths, or a mortality of 3.1 per cent. (private communication.) The reports of Winter and others show a mortality from abdominal myomectomy of 9.8 per cent., and from supravaginal hysteromyomectomy of 4.8 per cent. The conclusion to be drawn naturally is that myomectomy is more dangerous than hysterectomy. The figures alone do not show the entire truth, as cases in which myomectomy is feasible are those in which the mortality from hysterectomy would be practically zero, myomectomy never being performed in complicated and especially in septic cases. In my own experience, in forty-two vaginal myomectomies there were two deaths. One patient died of embolism after the removal of a sloughing fibroid polyp. The second died from an endocarditis, which antedated the operation, after the removal of a sloughing fibroid polyp. In the removal of a large fibroid tumor there was one death, which was due to infection of the peritoneum following a perineorrhophy done during the same operation. In addition to the mortality, the mortality must be considered, which is much greater after myomectomy—a considerable percentage of the women recovering after a stormy convalescence, the hospital charges are proportionately

The conclusion to be drawn from all the facts, it seems to me, is that the field of myomectomy is a

limited one. In my own practice there have been sixty-six myomectomies out of a total of 337 operations for fibroid tumors. I am not inclined to broaden the field of myomectomy beyond this proportion. If I were to make any change in my practice, it would be in the direction of increasing the proportion of vaginal myomectomies in comparatively young women in whom it is still desirable for pregnancy to occur. Vaginal hysterotomy, combined with anterior colpotomy, will enable the surgeon to remove submucous and partly intramural fibroids with safety in many cases. Otherwise, I shall continue in the future, as I have in the past, to limit the field of myomectomy to the removal of fibroid polyps and submucous fibroids by the vaginal route, and subperitoneal fibroids, when single, or at all events limited to two or three tumors, occurring in childless women less than forty years of age, by the abdominal route.

1509 LOCUST STREET.

A STUDY OF THE DISTRIBUTION OF THE EOSINOPHILIC LEUCOCYTES IN A FATAL CASE OF HODGKIN'S DISEASE WITH GENERAL EOSINOPHILIA.*

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In the human subject it is exceedingly difficult to obtain a correct idea of the state of the hæmatopoietic organs in cases of eosinophilia, for death almost always occurs from some secondary infection which produces a polymorphonuclear neutrophilic leucocytosis, complicates the blood pictures, and therefore makes any conclusions as to the condition of the cells of the bone marrow untrustworthy. Only in those cases which die suddenly from some mechanical cause can we expect to derive any information from a study of the cells of the bone marrow—that is, instances in which the blood picture, with increase of eosinophile cells, remains undisturbed up to the time of death.

The following case is of interest for two reasons: First, on account of the presence of an eosinophilia in an uncomplicated case of Hodgkin's disease; secondly, because the patient died a mechanical death, and therefore offered an excellent opportunity for a study of the hæmatopoietic organs under such conditions:

The patient, a youth of nineteen years, was admitted to the Pennsylvania Hospital May 10, 1905, complaining of swellings in the neck, which he first noticed two months before admission. These swellings formed two large, irregular, hard masses above the clavicles. They were not painful to touch. There was a good deal of cough and anorexia, which increased during his stay in the hospital. Toward the first of June breathing became very difficult, though the patient felt well otherwise and was walking about. On the morning of June 4th the patient literally strangled to death. Late in the afternoon of June 3rd he was seen dressed, sitting in a chair, blue, with mouth open, and gasping for breath. Respiratory efforts became more and more

* Read at a meeting of the Pathological Society of Philadelphia.

frantic until he grew unconscious, and died early in the morning of June 4th.

During life the blood was examined on two occasions. On May 24th the following result was obtained: Hæmoglobin, 77 per cent.; red blood corpuscles, 6,452,000; white blood corpuscles, 11,300. A differential count of the leucocytes showed the following proportions of cells:

| | Per cent. | Total No. |
|-------------------------------|-----------|-----------|
| Polymorphonuclear leucocytes | 64.0 | 7,232 |
| Small mononuclear lymphocytes | 17.2 | 1,944 |
| Large mononuclear lymphocytes | 3.2 | 362 |
| Transitional lymphocytes | 2.0 | 226 |
| Eosinophiles | 13.2 | 1,491 |
| Basophiles | 0.4 | 45 |

The unusual increase in the eosinophilic cells immediately attracted attention. On May 29th the stools were examined for intestinal parasites and ova, but none could be found.

On May 31st the leucocyte count was 13,400.

| | Per cent. | Total No. |
|-------------------------------|-----------|-----------|
| Polymorphonuclear leucocytes | 68.0 | 9,112 |
| Small mononuclear lymphocytes | 14.0 | 1,876 |
| Large mononuclear lymphocytes | 5.6 | 750 |
| Transitional lymphocytes | 2.8 | 375 |
| Eosinophiles | 9.2 | 1,233 |
| Basophiles | 0.4 | 54 |

There were no skin eruptions.

On May 24th a small tumor was removed from the cervical masses for diagnosis. The tumor appeared to be a small lymph node. Microscopical examination showed the changes characteristic of Hodgkin's disease. These changes have been described in detail in a previous paper.

Among the cells in this gland there were enormous numbers of eosinophilic leucocytes in places predominating over all other types. Their distribution was not altogether regular, for in some places they were much more numerous than in others. Most of the cells were bilobed or trilobed, but a small proportion showed a single oval or round nucleus. Toward the centre of the glands the cells stained rather poorly. Many of them contained only a few eosinophilic granules, and these did not stain very brilliantly. Other cells enclosed many granules, which, however, took the eosine stain rather poorly. About the periphery of the glands the cells stained much better. In the connective tissue capsule, which was quite dense but vascular, eosinophiles were almost as numerous in places as in the central portions. Here the nucleus took a deep stain and was well defined, while the protoplasm was filled with large, brilliantly colored acidophilic granules. Most of them were polynuclear. They often lay in narrow lines, filling crevices in the connective tissue. Some of the small bloodvessels in the connective tissue capsule did not contain any white cells, but in a large majority eosinophiles were seen in the lumen, sometimes almost filling the smaller vessels. Immediately about the capillaries, too, there were many beautifully preserved eosinophiles, which at times lay so close to the endothelial lining that they almost appeared to be half in, half outside, the vessel.

Several sections were searched through carefully for karyokinetic figures, but none could be found in the eosinophiles.

The autopsy was performed June 4, 1905, four hours after death.

Anatomical Diagnosis.—Hodgkin's disease; involvement of right and left cervical and superior mediastinal lymph nodes; pressure upon trachea, with stenosis; persistent thymus gland; chronic pulmonary tuberculosis; congestion and cyanosis of organs.

The masses in the cervical region surrounded the trachea completely, and compressed it so as to form total obstruction. The mesenteric, retroperitoneal, and inguinal lymph nodes were not enlarged. The tuber-

culosis of the lungs consisted in a small, round, circumscribed fibrous nodule at the apex of the left lung, measuring 7 cm. in diameter. On section it showed a yellow, firm centre. No tuberculosis could be found in the other organs. All the organs of the body were of a deep purplish blue color, but except for this no changes could be found. No parasites were found in the stomach or intestine.

In the histological study of the organs attention was directed principally to the presence and distribution of the eosinophile cells. The tumors from the cervical region presented the same picture at autopsy as they did at operation. The heart, lungs, spleen, liver, and kidneys, showed intense congestion without any other definite changes, except for the small caseous tuberculous nodule in the lung, which was typical in its morphology.

In the cervical tumors eosinophiles were encountered in enormous numbers, and had much the same appearance and distribution as was noted in the small node removed at operation. There was, however, one marked difference. Whereas the node removed during life showed great numbers of eosinophiles in the connective tissue capsule and in the bloodvessels of the capsule, the vessels in this situation in the autopsy material contained absolutely no eosinophiles and few white cells.

In the lung a few polynuclear eosinophiles were seen scattered sparsely in the tissue about the bronchi, but they occurred in no greater numbers than are often found under normal conditions.

In the spleen a few eosinophiles were scattered among the pulp cells and in the venous sinuses. Most of them had bilobed or trilobed nuclei, but occasionally a cell was found with a round nucleus. The eosinophiles were present in comparatively small numbers, and had to be searched for rather carefully before they could be found.

The mesenteric lymph nodes showed a fair number of eosinophile cells. They were situated chiefly in the sinuses, though sometimes they were met with in the follicles.

In the thymus a few large mononuclear eosinophiles were seen.

In the tumor nodules which involved this organ eosinophiles were as numerous as in the lymph node tumors themselves.

The study of the bone marrow taken from the right femur and the ribs revealed a particularly interesting condition. The tissue was fixed in Zenker's fluid and hardened in alcohol. Sections were stained with hæmatoxylin and eosin, and eosin and polychrome methylene blue. Smears were made from the fresh material and stained in Jenner's mixture. In the stained smears the most noticeable feature was the great numbers of polymorphonuclear neutrophilic leucocytes and the numbers of eosinophilic myelocytes. A differential count of the bone marrow cells made from smears stained by Jenner's mixture showed the following percentage of cells. One thousand white cells were counted.

| | Per cent. |
|---|-----------|
| Neutrophilic granular myelocytes | 16.9 |
| Transitional neutrophilic granular myelocytes | 3.2 |
| Eosinophilic granular myelocytes | 12.0 |
| Polymorphonuclear neutrophilic leucocytes | 51.3 |
| Polymorphonuclear eosinophilic leucocytes | 24.4 |
| Small mononuclear lymphocytes | 7.8 |
| Large mononuclear lymphocytes | 2.0 |
| Undifferentiated cells | 1.4 |

During this count eighty-six normoblasts and six megaloblasts were seen.

As a control, a differential count was made from paraffin sections of the marrow from the femur, stained in polychrome methylene blue and eosin. The result obtained was much the same as the count just given, except for the fact that the proportion of granular neutrophilic myelocytes was somewhat higher and the percentage of neutrophilic polymorphonuclear leucocytes a

2000 myelocytes and 2000 polymorphonuclear leucocytes, 43 per cent. neutrophilic polymorphonuclear leucocytes. The percentage of the other cells did not vary more than ten per cent.

The sections of the bone marrow showed some congestion and small patchy collections of marrow cells, which were incased by a good deal of fat. The most striking feature was the large numbers of polymorphonuclear leucocytes, and the great relative increase in the eosinophilic granules over the neutrophilic granules. A few large and small lymphocytes were also scattered and found with more granular material, and a few mononuclear giant cells were present. A few large brown containing golden yellow pigment were observed.

The striking features of the case are the increase in the eosinophilic leucocytes of the circulating blood during life, the enormous numbers of eosinophilic leucocytes found in the marrow from the quick chemical, and in the leucocytes immediately about the tumors, combined with which would appear to be a specific increase in the eosinophilic myelocytes of the bone marrow.

It is difficult to know exactly what constitutes a normal percentage of cells in the bone marrow of man. Jones² gives the following counts for one healthy man and one healthy new born infant, one normal rabbit, and one normal dog.

| | Human | Rabbit | Dog | Man |
|--------------------|-------|--------|------|------|
| Myelocytes | 1000 | 1000 | 1000 | 1000 |
| Neutrophils | 1000 | 1000 | 1000 | 1000 |
| Eosinophils | 1000 | 1000 | 1000 | 1000 |
| Polymorphonuclears | 1000 | 1000 | 1000 | 1000 |
| Lymphocytes | 1000 | 1000 | 1000 | 1000 |
| Giant cells | 1000 | 1000 | 1000 | 1000 |
| Stromal cells | 1000 | 1000 | 1000 | 1000 |
| Total | 1000 | 1000 | 1000 | 1000 |

Three differential counts of the bone marrow cells, made by Rubenstein³ on normal guinea pigs, showed the following proportion of cells:

| | I. | II. | III. |
|--------------------------|------|------|------|
| Small non-granular cells | 15.2 | 31.5 | 29.3 |
| Myelocytes | 16.8 | 19.5 | 14.4 |
| Neutrophils | 22.8 | 10.5 | 12.3 |
| Eosinophils | 10.8 | 30.9 | 38.9 |
| Polymorphonuclears | 1.2 | 1.5 | 0.3 |

A differential count of a thousand cells made from smears from the rib of a woman, who dropped dead in the wards of the Pennsylvania Hospital from acute dilatation of the heart, showed 13.9 per cent. of neutrophilic granular myelocytes, 0.6 per cent. eosinophilic granular myelocytes, 50.4 per cent. neutrophilic polymorphonuclear leucocytes, and 1.2 per cent. eosinophilic polymorphonuclear leucocytes.

In differential counts of the bone marrow from eleven cases of typhoid fever the numbers of eosinophilic myelocytes varied from 0.8 per cent. to 2.8 per cent., and the polymorphonuclear eosinophiles from 0.3 per cent. to 2.6 per cent. In three cases of empyema smears from the marrow of a resected rib showed a proportion of eosinophilic myelocytes varying from 1.0 per cent. to 1.7 per cent., and of the eosinophilic polymorphonuclear leucocytes from 0.5 per cent. to 2.8 per cent. We must consider, therefore, that the enormous and absolute numbers of eosinophilic myelocytes of the bone marrow were distinctly and very markedly increased in this instance of Hager's disease. As far as can be learned un-

der normal condition they form but a small proportion of the cells 4 per cent., whereas in this case they made up 12 per cent., while the proportion of the other cells was not greatly altered.

The source and mode of origin of the eosinophilic leucocytes has been often disputed, and in this short space it is impossible to review the literature completely. Since Ehrlich first suggested that they were formed exclusively in the bone marrow many other theories have been advanced.

As early as 1892, Müller⁴ showed that the large mononuclear eosinophiles of the bone marrow might increase by mitosis. Müller and Reider,⁵ Zappert,⁶ Gulland,⁷ Ouskow,⁸ and others have supposed that the eosinophilic cells arose from the neutrophilic polymorphonuclear leucocytes in the circulating blood. Other observers have considered that the cells were formed locally in the tissues, either from the neutrophilic leucocytes or otherwise. Leyden⁹ suggested that they might be produced in the mucous membrane of the bronchi in asthma. Neusser¹⁰ speaks strongly for their local formation in the skin in certain skin diseases, whence they are carried to the blood, while Weiss¹¹ holds much the same view in regard to the other tissues. Brown,¹² and Howard and Perkins,¹³ too, consider that the eosinophilic leucocytes are formed locally in the tissues. Klein¹⁴ has described a formation of eosinophiles in blood extravasations, believing that the acidophilic granules are formed by the ingestion of particles of hæmoglobin by polymorphonuclear leucocytes. Stschastnyi has recently come to much the same conclusion and Warthin¹⁵ has suggested that the eosinophiles may be formed in a like manner in the hæmolymp nodes. Tattenhamer,¹⁶ moreover, thought he could demonstrate the formation of eosinophilic cells in the reproductive organs of the salamander, and believed that the degenerated nucleus of the spermatocyte formed the acidophilic granules of the eosinophiles. It has been suggested still further that the neutrophilic leucocytes may be transformed into eosinophilic leucocytes by the ingestion of other substances. This entire subject has been recently reviewed by Howard and Perkins, Opie,¹⁷ Stäubli,¹⁸ and Stschastnyi.¹⁹

Some of the most careful experimental work

⁴ Müller, *Archiv für experimentelle Pathologie und Pharmacologie*, xxi, p. 221, 1892.

⁵ Müller and Reider, *Deutsches Archiv für klinische Medizin*, xliii, p. 96, 1901.

⁶ Zappert, *Zeitschrift für klinische Medizin*, xxiii, p. 227, 1896.

⁷ Gulland, *Journal of Physicians*, xix, p. 385, 1896.

⁸ Ouskow, cited from Ehrlich, *Die Histologie des Blutes*, Neudruck's System.

⁹ Leyden, *Deutsche medizinische Wochenschrift*, xvii, p. 1085, 1891.

¹⁰ Neusser, *Wiener klinische Wochenschrift*, x, pp. 41 and 65, 1892.

¹¹ Weiss, *Hämatochemische Untersuchungen*, Wien, 1896.

¹² Brown, *Journal of Experimental Medicine*, li, p. 315, 1898.

¹³ Howard and Perkins, *Johns Hopkins Hospital Report*, x, p. 246, 1902.

¹⁴ Klein, *Zentralblatt für innere Medizin*, xx, pp. 97 and 121, 1890.

¹⁵ Warthin, *Contributions of Medical Research*, Dedicated to Victor Vaughan, 1903.

¹⁶ Tattenhamer, *Anatomischer Anzeiger*, viii, p. 223, 1893.

¹⁷ Opie, *American Journal of the Medical Sciences*, cxvii, pp. 217, 447, and 988, 1901.

¹⁸ Stäubli, *Deutsches Archiv für klinische Medizin*, lxxxv, p. 284, 1905. *Münchener medizinische Wochenschrift*, No. 43, p. 2072, 1905.

¹⁹ Stschastnyi, *Ziegler's Beiträge*, 1905, xxxviii, p. 456.

¹ *Annals of the Medical Association*, 1904, i, p. 409.
² *Archiv für klinische Medizin*, xvi, p. 161.

on this subject has been done by Opie. He has found that eosinophile cells are very widely distributed through the tissues of guinea pigs. These cells occur under normal conditions in the intestinal mucosa, lymph nodes, bronchial mucous membrane, and spleen. They are brought to the tissues from the blood stream. One can actually see the emigration from the blood through the walls of the capillaries. In experimental infections produced by animal parasites, particularly trichinæ, the percentage of eosinophiles in the circulating blood undergoes great increase and along with this there is a specific increase in the eosinophilic myelocytes and polymorphonuclear cells of the bone marrow. The eosinophilic myelocytes may be present in great numbers and show active proliferation, as is evidenced by nuclear figures. Opie also showed that when guinea pigs were injected with certain bacteria there was an early accumulation of eosinophilic leucocytes in the peritoneal cavity. The vessels of the omentum contain many eosinophiles. Following this outpouring of eosinophiles into the peritonæum there is an increase in the numbers of these cells in the circulating blood, and a hyperplasia of the eosinophilic leucocytes of the bone marrow. In the spleen, two to four hours after the intraperitoneal injections, large mononuclear eosinophiles, some of which show karyokinetic figures, together with other bone marrow elements may be seen. Opie concludes that the only source of the eosinophilic leucocytes is the bone marrow. When these cells form local accumulations in any part of the body they are attracted to this situation by positive chemotaxis from the blood stream and are not formed in situ.

Stäubli has recently repeated much of Opie's work, and in main part confirmed his conclusions. Finding, however, large numbers of both mononuclear and polymorphonuclear eosinophiles in the peritonæum and mesentery of normal guinea pigs he considers that eosinophiles may be produced locally in this situation. Pröscher and Pappenheim²⁰ produced an overwhelming eosinophilia, almost exclusively of mononuclear cells, in rabbits by intravenous injections of tania extract. They consider in these experiments that the eosinophiles of the blood came from the bone marrow, but when the injections were made intraperitoneally they concluded from their findings that the eosinophiles arose locally, perhaps from endothelial cells.

In this case of Hodgkin's disease we can only suppose that the eosinophilic leucocytes accumulate in the tumor nodules by one of two methods. On the one hand, it is possible that they are formed locally in the lymphomatous tumors, on the other, that they are brought to this situation by the blood stream. Goldmann,²¹ who first demonstrated the eosinophilic cells in the lymphomatous nodules in Hodgkin's disease, and Dorothy Reed²² held this latter view. There was no evidence in the sections studied of a local

formation of eosinophiles. No transition forms could be found between cells without eosinophilic granulations and cells containing this type of granule, nor was there any evidence of proliferation of the eosinophiles themselves. Though many sections were searched through no mitotic figures could be seen. On the other hand, the cells toward the centre of the tumors appeared much older than those about the periphery, the nuclei were paler, the protoplasm contained fewer granules, and the granules were not colored so deeply. Moreover, in and about the vessels of the capsule and the surrounding tissue there were great numbers of eosinophile cells. It therefore seems probable that in this instance the eosinophilic leucocytes were not produced in the tumor nodules, but were brought there from the blood, and that they were formed from the eosinophilic myelocytes in the bone marrow which were present in abnormally large numbers. The increased demand for eosinophiles gave rise to an increased production with hyperplasia of the eosinophilic myelocytes of the bone marrow from which the polynuclear variety are formed, and a resulting general eosinophilia.

PENNSYLVANIA HOSPITAL.

A FEW GENERAL REMARKS REGARDING THE ESSENTIAL NATURE OF DEMENTIA PRÆCOX.*

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The possession of a vigorous and stable mind implies the existence of normally constituted and adequately nourished brain cells and appendages (1).

Nervous tissue contributes nothing toward its own support; it is absolutely dependent for its nutrition upon the lower vegetative and organic processes of the organism, so that even when normally constituted it presents variations among its purely automatic functions, which vary accordingly as the former are normally or abnormally performed.

With advancing years brain functions are found to undergo modifications normally incident upon senility, as a result of changes in arterial tubing and cortical cell. Quite frequently, however, we find advanced cerebral arterial sclerosis and degenerations, without commensurate mental failure having resulted therefrom, and in other cases but slightly marked alterations which have been associated with signs of mental failure entirely out of proportion to the pathological findings. This discrepancy must be explained by a relative insufficiency of the cortical brain cells, which renders them less capable of accommodating themselves to the altered nutritive supply from diminished blood carrying capacity (2).

At the other extreme of life we find instances of like association of neuronc insufficiency with imperfections and degenerations of the circulatory mechanism. Ireland writes of the small and weak

²⁰ Pröscher and Pappenheim. *Fol. Haem.*, 1, p. 638, 1904.

²¹ Goldmann. *Zentralblatt für allgemeine Pathologie und pathologische Anatomie*, p. 665, 1892.

²² Dorothy Reed, *Johns Hopkins Hospital Reports*, x, p. 33, 1902.

* Read before the Pittsburgh Academy of Medicine, March 26, 1906.

ing in the same individual—are in this way accounted for.

Occurring oftenest in the developmental period of life, the hebephrenic and katatonic forms arise, and we here see added to other manifestations a more prominent apathy and progressive dementia in the former, with behavior best described as "silly," and, occasionally, as the dementia progresses, some of the mannerisms which characterize the katatonic form; in this latter, with a peculiar condition of stupor, there is negativism, automatism, and muscular tension, or excitement, with stereotypy, verberations, and echolalia, apparently performed without purpose and "bearing the stamp of automatism and reflex action."

Again, the hallucinations may less rapidly disintegrate the psychic personality; this now becomes mixed with and animated by hallucinatory products which furnish most of the coloring to the clinical picture: a vague fear may take hold of the patient, and, assuming an attitude of suspicion, he becomes self-centered and solitary, forming false judgments upon everything that comes under his senses. The hallucinations become less frequent and more fleeting, and confusion reigns in their stead (Bianchi). The paranoid form thus originates.

The mental symptoms of this disorder are associated, as a rule, with bodily states which are both significant and explanatory of the nature of this disorder. They may be summed up in the statement that "general nutrition suffers." The appetite may be poor, loss of weight may occur; signs of perverted secretions and toxic or toxæmic states are present; anæmia, headache, sleeplessness, altered reflexes, and alternations and perversions of sensibility (both general and special), these latter shading off into signs of graver involvement of the sensory sphere and furnishing the basis for "sensory insanity," which, according to Bianchi, constitutes an essential phase of this syndrome.

Underlying pathological changes are variously reported: they may consist of alterations in nucleus and cell contents as slight as those commonly resulting from toxic and toxæmic states, and exhaustion from over activity, to marked chronic cell changes, with alterations in the neuroglia, and even the bloodvessels, as exaggerated as are found in other degenerative brain diseases. As thus far studied they are at least in keeping with the clinical manifestations in that they vary so widely. From the earliest insignificant lesions, manifested by slight initial symptoms, recovery is conceivable, and at this stage undoubtedly does occur.

With so wide a range among its clinical and pathological manifestations it is seen to present complexes of symptoms, analogous in many ways to all other forms of mental disorder. What has been said of paralytic dementia would seem therefore equally applicable to dementia præcox, viz., that "it is the paradigm of all the insanities" (Meyer). Having as its distinguishing feature this relatively rapid development of dementia, we see it attain at an early day the goal toward which all other forms of insanity tend. This early "primary or precocious" dementia is the essential feature of the disease and early stamps its impress upon the malady, which throughout its course—even to late and extreme mental degradation—may carry the so-

called brand marks of this syndrome; motility disorders, insistent and imperative conceptions are thus encountered in all stages of the disease. But it must be remembered that they also are found in the dementia which "represents the ruin of human intelligence over which the disastrous storm of insanity has passed"; their development is specially favored in dementia præcox, however, through the early indifference and apathy of the emotional nature coexisting with the more or less rapidly induced dementia.

The dementia is the one constant characteristic, therefore, which unifies all the forms of this disorder, and this implies structural changes (Cowles) (9).

It follows from this that the earliest symptoms presented by a mental disorder so grave as to early tend to dementia, that is, to develop into structural changes from which recovery is impossible, are the ones of greatest import from both diagnostic and therapeutical standpoints. The acute hallucinatory or confusional delirium preceding and ushering in the stage of dementia is commonly a transitory phase, often so evanescent, indeed, as to be lost to view, since it does not permanently dominate the morbid picture, which is that of dementia in its varying degrees. Bianchi emphasizes this fact, maintaining that though fleeting, the hallucinatory explosion of the disease is its almost constant feature. In those cases coming under my own observation, histories of such beginnings have invariably been obtainable, and from the standpoint of retro-diagnosis (since in hospital practice we see them only after the dementing process is inaugurated) I regard it as most distinctive. A few cases will serve to illustrate this as well as some important facts of ætiology.

CASE I.—A. W., thirty-eight years old. Katatonic form of dementia præcox. Was seen at his home seven months after onset. Characteristic motility criteria were present in the phenomena of negativism coexisting with a well marked dementia. Despite his mental reduction the patient described in a manner that made sufficiently clear the beginning of his illness in an attack which came upon him while engaged at his work, which was that of an accountant. He fell from his chair in a state of partial unconsciousness, and for a period of an hour or more was in a confused state with inability to speak, or seemingly, to move; and a few hours later, upon making attempt to do so, he found that he could not write. Going to his home, he seemed all right by evening and returned to his work on the following day. Further inquiry elicited the fact of previously failing health and strength with long entertained fears that he might not be able to perform the duties expected of him; and that immediately preceding the attack above described, there suddenly came over him the fear that he could not write, nor calculate, accompanied by a "numbness and tingling" in arms and head, with a sense of loss of power and consciousness. Subsequent attacks of a similar character, in which fear was invariably a prominent feature, although never followed by actual disability or sign of gross organic lesion, were associated with rapid failure in general health and mental capability, soon necessitating his giving up his position. His mental failure was rapid and the reduction marked by characteristic features of dementia præcox.

CASE II.—This patient belongs in the mechanism of development to the paranoid variety, but in further

clinical picture of dementia praecox in ketosis and hypoglycemia.

On 12-13-14, however, became more stable. The mental condition of the patient had been such that it was possible to get a fairly good idea of his condition. The patient's condition was such that it was possible to get a fairly good idea of his condition.

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He had been well until about a year previous to his admission to Dixmont, declining in weight from 150 to 140 pounds, was listless, languid, and dull. Of studies, he had no interest, and he had no interest in his family. He had no interest in his family. He had no interest in his family.

Some weeks before he was brought to Dixmont, he went to his father, saying: "We must have this thing out right here. Why are people watching me and saying things to me?" According to his father, he seemed after this to entertain the idea that he was offensive to others, why he did not say. (It later developed that he experienced a horrible odor—olfactory hallucination—of which he was always conscious and thought others must be conscious of it also.)

Twenty-four hours previous to his admission to the hospital, he was missed. Careful search discovered him in the loft of his pigeon house. Apparently very ill, he had developed the fact that he shortly before had swallowed a large quantity of Paris green. Present mental features in the hands of a physician were brought out, however.

When he was at Dixmont he exhibited the somatic features characteristic of dementia praecox. The patient's condition was such that it was possible to get a fairly good idea of his condition. The patient's condition was such that it was possible to get a fairly good idea of his condition.

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with his classes, it cannot be said that he did well. He had been well until about a year previous to his admission to the hospital.

Of constipated habit from childhood, and in recent years continuously dyspeptic, his failure in general health has been marked during the past year, although he managed to continue at work (he was a clerk in a grocery store) until three weeks before his commitment. It was then noticed that he dropped into the habit of talking to himself, and occasionally he would be found laughing in a silly manner. Sleeping poorly, he had attacks of terror at night—"seemed to see terrifying visions," and these later came on during the day. Within twenty-four hours after these attacks, he appeared to grow increasingly dull and stupid, behaving, in the words of his stepfather, just like an automaton; he would not eat, would not remove his clothing, nor go to bed, would do nothing in fact except he be forced to. This negativism continues since his admission to the hospital, occurring interchangeably with hallucinatory states (both visual and auditory) accompanied by fear, and with periods of more or less marked excitement. He talks to himself and laughs in a foolish manner, evidently in response to imagined sights and sounds. States of fear are much less marked than formerly, and there is increasing dullness and apathy.

I give these few facts from among the many instructive details of these cases to illustrate the features of hereditary influence, inherent defect, and early signs of general malnutrition.

That the acute manifestations of a hallucinatory delirium should rapidly pass into the functional death of the higher brain cells exhibited in all those cases presenting the dementia praecox syndrome is vividly illustrative of the inherent lack of cerebral vitality. Interest centers, therefore, in the early signs indicative of defect in original constitution, or lack of stability of these highest centres, and such signs are here discoverable, as in other forms of mental disorder.

It is axiomatic that function precedes structure—that is, structural defect is first manifested by functional failure. We have seen that even the acute hallucinatory explosion of this disorder commonly fails of correct interpretation. It need not surprise us therefore, that early signs of functional failure should be overlooked, or, if noted, their significance remain unheeded. That a large majority of cases presenting the dementia praecox syndrome progress to permanent mental deterioration should impress upon us the need for linking these earliest facts of functional failure with the later and more manifestly pathological ones; and just in proportion as we do this will we assign to them the importance they deserve; for here, if at all, is it possible to correct errors among the nutritive functions, and to prevent further overburdening of the inherently weak brain cells, which condition the processes of degeneration and decay underlying the development of the disorder.

Early signs of this precarious stability of brain cells, which makes it possible for relatively slight disturbances of nutritive processes to be transformed into the graver physicochemical changes revealed by resultant characteristic symptoms, are the same in kind as those foreshadowing the recoverable psychoses, or those which more slowly progress to the final goal of dementia; these are accessible through study of the individual's mode of response to habitually acting stimuli—chemical, mechanical, emotional, and instinctive—and are thus seen to be

inseparably bound up with a study of all the bodily functions.

The readiness with which the signs indicative of failure and disorder of cerebral function are produced as a result of disturbance among the organisms, vegetative and organic functions, and the frequency with which these latter occur, furnish us with criteria of nerve instability. For example, readily induced attacks of indigestion, long standing constipation and "nervous dyspepsia" are common incidents of previous history, with their cerebral concomitants and resultants of sleeplessness, or irritability, or tendencies to moods of depression or excitability and exaltation; deficient power of fixing the attention; fears and obsessions, aboulias, etc., etc., all these being symptomatic of cerebral nutritive defect, arising from perversions of bodily secretions and of consequent malnutrition of the highest regulative cells. Frequently repeated, with all their consequences (mental as well as bodily), they soon assume an important prognostic significance, for, in addition to their frequent, or it may be habitual, occurrence, producing the inevitable autointoxications, whose evil consequences are manifested chiefly through the vulnerable cerebral cells, we must also take into account the gradually acquired but now "fixed" or "organic" habit of those higher cells of responding in a given manner to these sources of irritation, a habit of excessive and impulsive, unrestrained, and it may be explosive and incoordinated response to stimuli, whether coming from within the organism, stored up as memories, or originating in intracellular processes resulting from physicochemical alterations representing the early stages of structural change. From these are woven the various patterns of hallucinatory, delusional, and motility manifestations which constitute the fabric of this syndrome.

But in a form of mental disorder so clearly founded upon original inadequacy of constitution of the involved organ, we may reasonably expect to find anomalies of structure indicative of this defect. In my own cases these are abundantly present. Stigmata of degeneration are found in even greater proportion than in the later developing mental disorders of other clinical types. Imperfectly formed and asymmetrical ears, palatal deformities and facial asymmetries have been observed in all of the cases admitted to Dixmont.

Heredity, as influencing the potentiality of the nerve cell, is a prominent factor in the genesis of dementia præcox. The following case will illustrate:

CASE IV.—J. S. S., twenty-two years of age. Paranoid variety. Maternal grandfather was insane and died at sixty-five of cerebral apoplexy. Mother "weak and sickly" all her life; had a stroke at forty-four, which left one side paralyzed. The marked degree of mental deterioration in this patient, appearing at an earlier age than did the destructive results of arterial degeneration in his forbears, is illustrative of inherited diminution in vitality and must be interpreted as "belonging to the series of changes which imply a process of degeneration continuing through several generations" (Cowles).

In this brief and somewhat schematic manner I have attempted to bring before you some of the factors which we must bear in mind when consid-

ering the nature of this disorder. Whether manifested at puberty, during adolescence, or in later adult life, and whether traceable to autotoxic and toxic agents, or to the influence of stress and exhaustion, we must view dementia præcox as representative of a relatively late stage of mental disorder originating in an inherent defect in vitality of the higher brain cells, which, escaping the causes potent for destructive damage to nerve cells, might have persisted longer, and even to the end of general life.

That a few cases apparently recover is explained by their relatively greater degree of vital endurance, or less marked involvement of the lower vegetative and organic functions, which under favoring circumstances of early diagnosis and treatment may be brought back to more nearly normal functioning, with the exhibition of correspondingly greater recuperative energy and reparative power. Once established the course of the disease is progressive in the great majority of patients, and ultimately leads to deterioration, varying from a slight stunting of mental development to a degradation as extreme as that following any of the degenerative psychoses. However we may suspect this degenerative tendency in a given individual, there are no means by which we may accurately foretell its immanency. But this much can we say: The known tendency of early symptoms, presenting many phases resembling those regarded as neurasthenic and hysteric to eventuate in gradual and variably progressive mental deterioration, should influence us in giving first place to these early obscure, and, because of their subjective nature, often difficult to elicit symptoms, those precisely, which in so many instances are made light of, or at least are not deemed of serious prognostic import, except as they may happen to come under the notice of one specially trained in psychopathology.

From the standpoint of prevention—and let me repeat that in this lies our one hope—they become of tremendous importance, not only to the patient, his family, and society, but in this day of rapidly accumulating wards, to the State as well.

References.

- 1, 2, 4. Berkley, Henry J. *Mental Diseases*.
3. Ireland, W. W. *Mental Affections of Children*.
- 5, 6. Gowers, W. R. Abiotrophy, *Clinical Lectures*, 1902.
7. Farrar, Clarence B. *The American Journal of Insanity*, lxii, No. 2.
8. Bianchi, Leonardo. *Textbook of Psychiatry*.
9. Cowles, Edward. *The American Journal of Insanity*, lxii, No. 2.

THE SURGICAL TREATMENT OF CHRONIC DYSPEPSIA.

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Twenty years ago the word dyspepsia was one pretty generally employed to designate impaired and painful digestion. The term was an elastic one and covered a large variety of disorders not at that time well understood, or accurately classified. As our knowledge regarding the pathology of these affections has advanced, there has occurred a gradual change in nomenclature.

These conditions, characterized by attacks of acute pain in the epigastrium, with nausea, vomiting, and constipation, with more localized tenderness, and muscular rigidity, formerly spoken of as acute gastritis, intestinal colic, or a similar attack, are now known to be caused by an acute inflammation of the mucosa, the cause of a general or localized, recurrent attack, and to require an incision, followed by drainage of the pus, and removal of the ulcer, while the more chronic forms of dyspepsia, caused by a more or less constant spasm of the pylorus, primary, systemic, and reflex, are now recognized as being due to benign pyloric stenosis, chronic intestinal obstruction, or cancer.

All of these disorders, then but imperfectly understood, were regarded as belonging exclusively to the domain of the practitioner of internal medicine. It is true that the surgeon was occasionally called upon to relieve the late terminal complications as acute intestinal obstruction, or peritonitis, and to open and drain extensive collections of pus, but generally only as a last resort, when the patients were moribund.

The indifferent success which followed their efforts tended to discourage rather than encourage the physician toward further surgical attempts.

Shortly after this period Litz announced to the profession the results of his studies on inflammatory conditions of the vermiform appendix, and conclusively demonstrated the relationship between these conditions and the fatal forms of general peritonitis, as well as the more localized form of intraabdominal suppuration. That the condition was one for surgical rather than medical treatment was self evident.

As this was an entirely new field for surgical endeavor, the early results were often disastrous, due to technical errors, and the fact that only the most desperate cases were brought to the surgeon for operation. These early efforts of the surgeon met with the bitterest opposition from the great majority of medical practitioners, who contended that appendicitis (even after rupture had occurred) intraabdominal abscess, and even spreading peritonitis, were best treated by drugs and counter irritation.

While this acrimonious controversy extended over many years, the results which followed improved operations gradually convinced the profession that safety in these cases could be obtained only in surgery, and to-day there is not an intelligent practitioner in this entire community who does not admit that inflammatory diseases of the appendix and its sequelae belong exclusively to the domain of surgery.

The gallbladder and biliary passages next engaged the attention of the surgeon, and here also he encountered at first bitter opposition from the general profession. But the better results which were obtained by surgery, as in these dangerous and painful diseases, combined so strongly with the successful non-operative treatment that surgery of the gallbladder and ducts became quickly recognized as the best method of dealing with these conditions. The writer has seen many cases of gallbladder disease treated at an early stage, before the patient had become exhausted by prolonged medical treatment, and these are attended by a comparatively small operative risk with

nity less than the risk of the disease if left to itself.

At the present time the great majority of intelligent physicians recognize and admit that these conditions belong to the surgeon rather than to the practitioner of internal medicine.

In the development of the surgery of both the appendix and gallbladder the same sequence of events has been observed. First, the surgeon was called on to operate in the fatal terminal complications of the disease. His operations were frequently followed by a high mortality and much adverse criticism. Later he was called on at an earlier period to relieve suffering and avoid fatal complications; this he did with a lower death rate and less hostile criticism, and finally when the pathology of these diseases was better understood, and earlier diagnoses possible, he was called to operate in the earliest stages, or when the disease was quiescent, with a view to avoid future trouble. This he did with an insignificant mortality, with the best possible results, and with the hearty approval of his medical colleagues. This ideal state of affairs is only possible when the general medical public has been convinced that early prophylactic operations in these surgical conditions give the patient the best chance of life and future health.

It would be a waste of time to dwell further upon the surgical treatment of diseases of the appendix and gallbladder. All intelligent medical men now admit that the problems presented in these conditions are strictly surgical, once the diagnosis is made.

It is with regard to diseases of the stomach and duodenum that I wish particularly to speak, and here also the treatment of certain acute conditions has already been settled by the almost unanimous agreement of the profession. Practically all medical men will admit that acute perforative lesions of the stomach and duodenum call for immediate surgical treatment. It is generally admitted also that primary hæmorrhage from acute ulcer, no matter how copious or exhausting, is best treated by nonoperative methods, but that frequently repeated hæmorrhages threatening the life of the individual should be treated by operation.

In the chronic lesions of the stomach, however, and duodenum there is still considerable difference of opinion. As many of these lesions are associated with symptoms of chronic dyspepsia of a severe type and not amenable to treatment by internal medication, the writer believes that in the management of these conditions there is a broad field for intelligent and conscientious surgical work.

In order to firmly establish the indications for the surgical treatment of these disputed conditions we must show, first, what results can be obtained by surgery; second, at what risk to life can these results be obtained, and, third, in what degree are these results better than those obtained by purely medical means.

I will limit myself to the consideration of three conditions only—cancer, ulcer, and benign pyloric stenosis.

CANCER.—Cancer of the stomach is one of the most frequently encountered forms of malignant disease; about forty per cent. of all carcinomata occur in this organ. Its occurrence varies in different localities, the average being about one in every

fifty individuals. As is well known the presence of cancer of the stomach means the death of the individual in every instance within two years, unless he can be given the benefit of an early diagnosis and a radical operation at a time when the entire diseased area can be removed.

There is no known drug or medicinal agent, no system of diet, massage, hydrotherapy, or outward application, no blind faith in hypnotism, Christian Science, or mind cure, which has ever for one moment arrested the progress of the disease, or in any material respect mitigated its distressing symptoms.

What can surgery do for these cases? If early operative treatment is inaugurated it can radically cure a certain number, certainly twelve per cent., probably twenty per cent., possibly in the future, with improved technic and earlier diagnosis, thirty per cent. It can give grateful temporary relief to a large number of starving patients, who suffer from the intolerable pain, exhausting, vomiting, thirst, and prostration of pyloric obstruction, and a dilated stomach. It is only within the past twenty-five years that the surgeons have attempted the radical removal of cancer of the stomach. The earlier efforts of Péan, Billroth, and others were undertaken only in advanced cases, and the resulting immediate mortality was high, upwards of sixty per cent.

A review of statistics of twenty of the most prominent modern operators, including Kocher, von Mikulicz, von Eiselsberg, Roux, Robson, Moynihan, von Czerny, Kummel, Mayo, Deaver, Murphy, Munro, and Oschner, and comprising over 600 pylorotomies, or partial gastrectomies, shows a gradually lowering death rate as the technics of the operation has been improved. In his recently published report of ninety-seven radical operations on the stomach, Kocher's total mortality was twenty-six per cent., in his last thirty-seven cases seventeen per cent. Von Eiselsberg's latest statistics show a mortality of twelve per cent. In Mayo's last forty pylorotomies the mortality was only five per cent.

Regarding the result of these cases it must be remembered that nearly all of the earlier operations were in cases of advanced disease, as it is only within the past few years that physicians have shown any inclination to advise early exploratory operations, at a time when the disease can be radically removed. Yet in spite of these unfavorable conditions, Kocher reports twenty per cent. of all his operated cases alive and well at the time of his report; eight, or twelve per cent., were alive and well from three to sixteen years after operation, eleven more than two years, and seventeen more than one year.

Bockel reports forty-eight pylorotomies for cancer. Of these, in twenty-one instances the end results were known; eleven died in from five months to five years of recurrence, two died of other diseases, eight were alive and well at the time of the report; of von Eiselsberg's cases, eight were living and well from five months to six and one half years after operation; from these and eighteen others (fifteen dead and three finally lost sight of), four, or fifteen per cent., were known to have lived more than two years.

Four of Mayo's cases have passed the three year limit, and many others are alive and well, between two and three years. These statistics, meagre and

unsatisfactory as they are, are far in advance of those of cancer of the uterus, rectum, tongue, and breast, taken at the same period after inauguration of radical surgical operations in these regions.

In a private communication from Professor Hartmann last summer, that distinguished surgeon informed the writer that he now regarded his results in cancer of the stomach as equal to those in cancer of the breast. In view of these facts, the writer maintains that the physician has no more right to deny his patient with suspected cancer of the stomach an opportunity for radical removal than he has to discourage operation in case of gunshot wound of the abdomen, or to withhold antitoxine from a patient with malignant diphtheria.

The occurrence of symptoms of dyspepsia in an individual of the cancer age, especially if preceded by a history of gastric ulcer at an earlier period, or associated with a progressive loss of body weight, should at once awaken the suspicion of cancer. If the dyspeptic symptoms are not promptly relieved by dietetic or medical treatment, and if food remnants are found in the stomach in the early morning, he should be frankly told that there is a possibility of cancer which can only be positively determined at that time by an exploratory incision. If allowed to advance until a positive diagnosis can be made by clinical methods, in all probability the opportunity for radical cure will have passed. An exploratory operation means only ten days in bed, comparatively slight discomfort, and a mortality of less than one per cent.

ULCER.—Ulcer of the stomach, formerly thought to be a rare disease, is in reality of very frequent occurrence. Like carcinoma, its frequency varies in different localities. Welch states that he found it in five per cent. of all adult autopsies. Stark, of Copenhagen, found it in thirteen per cent., and Grunfield in twenty per cent. Duodenal ulcer is also of frequent occurrence. In 232 operated cases of ulcer, Mayo found the lesion 158 times in the stomach alone, and fourteen times in both situations. Moynihan states that in one half of the cases, more than one ulcer is present. In from seventy to eighty per cent. of the cases, the ulcer is at or near the pylorus. Mikulicz estimated that twenty per cent. of all ulcer patients eventually died from the disease.

Gastric or duodenal ulcer occurs in three forms: First, the mucous erosion, or minute bleeding point with difficulty seen at autopsy, or at operation unless actively bleeding. It is often multiple and gives rise to copious hæmorrhages, but rarely to aggravated symptoms of dyspepsia. Second, the acute nonindurated, round, or peptic ulcer, most frequently observed in anæmic young women between eighteen and thirty years of age. This often bleeds copiously, gives rise to acute pain, pyrosis, nausea, and vomiting, and is generally associated with hyperchlorhydria; and, third, the chronic indurated ulcer, involving all the coats of the viscus and often associated with a cicatrix on the peritoneal surface. This variety occurs with greater frequency in men between thirty and fifty, and is the lesion present in a large number of the patients who suffer for years from intractable dyspepsia.

In a small number of cases gastric ulcer may remain latent for an indefinite period, the first indication of its presence being a severe hæmatemesis, or

symptoms, and sometimes even blood in the stools. In the acute history of irritation, however, the probability of passing to a chronic condition of a gastric hypersecretory type. The symptoms are plethoric, nervous, and sometimes the chief trouble is loss of appetite, nervousness, indigestion, and other troubles. Hematemesis and melena are frequently observed. Constipation is generally present, and is treated with castor oil. The same symptoms are also the result of a peptic ulcer, and are not infrequently met with in a patient with gastric ulcer who will starve himself rather than endure the pain that invariably follows eating.

While treatment consisting of rest, rectal feeding, followed by a careful regulation of the diet, and the use of bismuth or silver nitrate, will often bring about complete relief in many of these cases, and in some cases a radical and permanent cure, in many others the tendency to recurrence is marked, and a small number of such patients when they finally come to the surgeon for relief give a history of many such cases.

It not infrequently happens that ulcer cases are but little or not at all benefited by such treatment. These patients suffer day after day for many years, become emaciated, anorectic, irritable in temper, misanthropic, and moribund. This is the type of the chronic dyspeptic, so often encountered by practitioners and so frequently the victim of quacks and patent medicine vendors.

It is difficult to correctly estimate the proportion of ulcer cases which are permanently relieved by medical and dietetic treatment. If one consults only the statistics of Ewald, Leube, and others who treat a large number of ulcer cases, who report seventy to eighty per cent. of cures, and a death rate of six or eight per cent., one is forced to the conclusion that their results are eminently satisfactory, and that the results are certainly as good or better than those obtained by the surgeon.

There are, however, several sources of error in this reasoning. In the first place, until quite recently practically all of the patients who have been driven to seek relief by surgery are those who could have been successfully relieved by medical treatment, or who have become discouraged by frequent recurrence, and these constitute a class which may be termed obstinate or intractable ulcers. In the second place, hospital statistics are grossly misleading, unless they give us the end results gathered one or more years after cessation of treatment.

With a view to determining the final results of medical and dietetic treatment of gastric ulcer, Ewald and I have made a careful analysis of 180 cases of gastric ulcer treated at the Massachusetts General Hospital. The immediate results of these cases, as entered upon the hospital records, were: Cured, eighty per cent.; relieved, eighteen per cent.; unrelieved, nine per cent.; died, eight per cent.—statistics which correspond very closely with those from the best foreign clinics. These patients, however, were carefully traced after leaving the hospital, and the end results gathered in 114 instances the average time being between the hospital being first seen. The result of this second investigation was the following: Remaining well, forty per cent.; recurrence of symptoms, thirty-six per cent.; deaths from ulcer, twenty per cent.;

deaths, unknown cause, four per cent. J. W. Russell recently reported in the *Lancet*, in January, 1904, the after histories of forty-seven cases traced, from two to thirteen years, with the following results: Permanently cured after first attack, 27.7 per cent.; permanent relief one or more relapses, 14.9 per cent.; still suffering from the disease, 44.7 per cent. (fifteen per cent. at intervals, thirty per cent. continuous).

These figures conclusively prove that the ordinary hospital statistics are grossly misleading; that while 80 per cent. or more are undoubtedly relieved as a result of intelligent treatment, only about forty per cent. remain well; that while the death rate during the first attack may be eight per cent. or less, the real mortality under medical treatment is in the neighborhood of twenty per cent.; in other words, sixty per cent. of all cases of gastric ulcer treated medically must look forward to death or chronic invalidism.

Three surgical procedures are at present employed in the treatment of gastric ulcer: 1. Excision of the ulcer itself; 2. pylorotomy, or excision of the ulcer bearing area, and, 3. gastroenterostomy.

The first of these procedures, although theoretically the ideal method, is practically limited in its application, for the reason that in many instances the ulcers are multiple, and in some it is difficult or impossible to locate the exact seat of the lesion. The second procedure is rapidly gaining favor among surgeons, for the reason that it not only gives excellent immediate results, but as a prophylactic measure against the subsequent development of cancer. The third is the operation of choice in most cases, on account of its low mortality and generally satisfactory results. The mortality of gastroenterostomy in the hands of such men as Robson, Moynihan, the Mayos, Deaver, Murphy, and Kocher, is less than three per cent.

It is difficult to give the end results of this operation in ulcer cases without pyloric stenosis, as nearly all of the statistics include both classes of cases, and for the additional reason that faulty technics in many of the earlier cases was directly responsible for recurrence. Still, von Eiselsberg reports forty-seven per cent. of his patients with ulcer well, on an average of four years after operation, where posterior gastroenterostomy was employed.

Munro reports fifty per cent. of his ulcers permanently well, treated by the Finney operation; forty-eight per cent. by the long loop posterior operation, sixty-six per cent. by the short loop posterior operation. Moynihan gives only two failures in 151 operations, and both of these due to faulty technics, which were subsequently cured by a secondary operation. It is only fair to state that his statistics include also his cases complicated by pyloric obstruction.

From these facts the writer would therefore state that the indication for treatment in uncomplicated, or open gastric ulcer, to be:

1. Intelligent medical treatment for all primary cases of simple round ulcer.
2. If unrelieved after six weeks of this treatment, operation should be advised.
3. Operation in all cases of indurated chronic ulcer, and in all cases of recurrent symptoms after a primary cure. The nature of the operation to be determined after the abdomen is opened, and the

condition accurately diagnosticated by inspection and palpation.

I cannot refrain in this connection from quoting two recent statements, one from one of England's most distinguished surgeons, and the other from one of America's ablest internists.

Regarding the treatment of gastric ulcer, Moynihan states: "Medical treatment for ulcer may give temporary relief, and afford to the ulcer an opportunity to display its powers of bleeding, to perforate, or in the end to develop a malignant character, but if the patient is to be cured he must be cured by surgery, and surgery alone."

Professor George Dock, of Ann Arbor, states in the *Yale Medical Journal* of April 1, 1905, that "the modern operation for gastric ulcer is not as dangerous as the disease," and agrees with Munro, who stated, "that ulcer should be treated by the surgeon early rather than late, before starvation, not as a last resort." After reciting a number of successful cases, he continues: "When we compare such cases with those treated by medical methods alone, we cannot deny a great advance in comfort as the result of surgical treatment."

Another strong reason for the early surgical treatment of ulcer is the growing belief among those whose opportunities for both clinical and pathological observations are large, that gastric ulcer is one of the most frequent, if not the most frequent cause of cancer. At the Mayo clinic a distinct ulcer history has been obtained in upward of thirty-five per cent. of the operated cases of cancer, and positive histological evidence of the engrafting of malignant disease upon ulcer in thirty per cent. of the cases. Mumford, in an analysis of fifty cases of gastric ulcer at the Massachusetts General Hospital, found a distinct ulcer history in forty-one. The facts also that the percentage of cancers occurring in the pyloric region of the stomach is approximately the same as that of ulcer, and that this relationship exists also in cancer and ulcer of the greater curvature and cardia, has been urged by Robson and Moynihan as an additional reason for the belief that we have in ulcer the most frequent predisposing cause of cancer.

BENIGN PYLORIC STENOSIS: A gastric or duodenal ulcer may produce a primary pyloric stenosis, either by the presence of an acute inflammatory exudate in the surrounding tissues, or at a later stage, by marginal induration or cicatricial contraction. Not infrequently when the process involves the deeper tissues, or where a minute perforation has occurred, a circumscribed or spreading peritonitis is developed, which, if recovery takes place, results in the formation of adhesions, which give rise to stenosis, from angulation or fixation of the pylorus to the other organs.

Other causes of pyloric stenosis are peritoneal adhesions from gallbladder infection, causing thickening or angulation, benign tumors of the pylorus, or duodenum; the hypertrophic stenoses, both congenital and acquired; gummatous infiltration; foreign bodies, or the pressure of tumors in neighboring organs.

The first effect of a moderate narrowing of the pylorus is obviously an increased peristaltic effort on the part of the muscular apparatus of the stomach to propel the food into the duodenum. This in an

otherwise healthy individual generally results in compensatory hypertrophy of the gastric musculature, and while this compensation is maintained no untoward symptoms occur. Sooner or later, however, if the disease is progressive, this compensation fails, and a certain quantity of the food is habitually retained in the stomach.

As in the case of the urinary bladder, this inability of the viscus to empty itself gradually results in dilatation of the organ, with atony of its muscular walls. Stagnation of the gastric contents result in fermentation; fermentation gives rise to the formation of acrid acids and gases, which in turn irritate the mucosa and eventually cause a subacute gastritis, or catarrh of the stomach. Relief of the overburdened and irritated stomach can only occur from vomiting. This takes place, at first, at infrequent intervals, later more regularly, and when obstruction becomes practically complete, after each meal. As the stenosis increases, a progressively diminishing amount of food passes into the intestines, and as absorption of water from the stomach itself is practically *nil*, thirst, a diminished secretion of urine, constipation, and rapid emaciation, occur. When the obstruction becomes complete death from starvation is the inevitable result.

In a certain number of these cases tetany will develop, evidenced by the occurrence of tetanic contractions in the hands, arms and legs. This frequently follows severe vomiting, or an attempt to pass the stomach tube, and unless gastric drainage is at once instituted the disease proves fatal in a large proportion of the cases. In perhaps no other variety of chronic dyspepsia are the victims so wretchedly uncomfortable and unhappy as in these cases of obstruction and gastric dilatation.

While marked relief may often be obtained in the earlier stages of this affection by gastric lavage and a strictly fluid diet, the cause of the symptoms is a purely mechanical one and is generally progressive in character. It can be permanently relieved only by reestablishing an adequate communication between the stomach and intestinal canal.

Immediate relief and permanent cure can be brought about in the majority of instances by a timely gastroenterostomy. I know of no medical statistics which show any permanent cures of cases of genuine progressive pyloric stenosis if we except those rare instances when the obstruction is due to gummatous infiltration. The occasional failure of surgery to relieve these cases has been due mainly to the faulty technics and the fact that in many cases operation has been delayed until the patient's condition was so lowered by starvation and exhausting vomiting that he had no resistance or recuperative power.

It is perhaps unnecessary to quote statistics to demonstrate the great value of operative treatment in this class of cases, as it is the writer's experience, and he believes it to be the experience of the majority of surgeons, there is perhaps no field in which surgery achieves more brilliant results than in the treatment of ulcer, complicated with pyloric stenosis.

Of von Eiselsberg's cases of gastroenterostomy for this condition which were followed, ninety per cent. were found to be well on the average of two years after operation. Mumford collected from eight different clinics 169 cases of ulcer, and its

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PUERPERAL INFECTION.*

By H. J. BOLDT, M. D.,

NEW YORK.

There is perhaps no phase in the specialty of obstetrics and gynecology that has interested physicians more than septic infections. Since the discovery by Semmelweis that puerperal fever is dependent upon definite causes and, as he believed, avoidable causes, attention to this subject has steadily increased. While the animal experiments of ... were scientifically crude, compared to ... et they were of as great practical importance as any that are made even at ...

... in the study of puerperal ... it is considered that Semmelweis proved that after it had become compulsory through his influence that the hands should be thoroughly ...

... in any pregnant ... in the hospital ... 1847, the mor- ... night to day.

For instance, in 1846, before hand washing, as rec- ... practised, the mor- ... 150. In 1848, a year after ... become compulsory,

... that this pioneer did, and ...

study of this subject, it is likely that much time will still elapse before a unanimity of opinion is reached on the many mooted points. For instance, there is not a discussion on this subject, in which the possibility of self infection is not positively denied, it being alleged that the infection producing agents are invariably introduced from without, by some defect in technics, on the part of the attendant. The attending physician is always held responsible for the cause of the infection. Although we must admit that in most instances such a view is correct, yet there is no rule without exceptions. It is my belief that the pendulum has swung too far in one direction, and it is unscientific to say that if we admit the possibility of self infection, the careless accoucheur will always resort to that excuse.

Carefully conducted investigations have shown that in the secretions of more than seventy-five per cent. of puerperal women, aerobic chain cocci may be demonstrated, without necessarily causing more than a small percentage of morbidity, and that only of short duration. We further know that streptococci may be present in the entire genital tract in women who have not been examined internally, and yet such women may be entirely free from fever.

The streptococci found in the vagina and vulva are usually genuine streptococci and cannot be biologically further differentiated. We also sometimes find the necessarily anaerobic streptococcus of Kroenig in the vagina; it develops with the formation of gas and causes putrescence, and usually lives in symbiosis and is of itself almost always innocent. There is also found a derivative of the pneumococcus, called by Navtig, parapneumococcus. This and the streptococcus of Kroenig are found in clinically apyretic cases. Streptococci in the lower part of the vaginal tract may travel upward into the uterus during the puerperium. The parapneumococci have less ability to ascend than the other streptococci varieties, rarely getting above the vaginal secretion. Sometimes the microorganisms remain in the endometrium, at other times they deluge the circulatory system, or they travel by way of the lymphatics into the peritonæum or into the parametria.

Numerous forms of microorganisms have been found in puerperal patients: Streptococci, *Staphylococcus albus* and *aureus*, *Bacterium coli*, *Bacillus aerogenes capsulatus*, diplococci, diplobacilli, etc.

According to Navtig, the multiplication of the streptococci and their increase in virulence seem largely dependent upon changes in the genital secretion after the beginning of labor. Investigations have shown that genuine streptococci live in the vagina of clinically perfectly healthy women as innocent saprophytes, that during their ascent their character may become entirely changed, their virulence being increased through changes in the fostering soil during labor or at the beginning of the puerperium.

The question of the existence of microorganisms or of putrefaction producing bacteria is best illustrated by taking as examples such cases as those in which no internal examination was made at any time. Streptococci pyogenes have been found in the interior of the uterus in such instances. Such proof makes it evident that we have no right to deny the

possibility of self infection, or if one prefers to give it another name, call it infection from spontaneously ascending microorganisms, but I know of no more appropriate term than the one adopted by Ahlfeld for infection from the spontaneous ascension of microorganisms, namely, self infection. It seems to me that the views of Ahlfeld must therefore be accepted as correct, because the correctness of his teaching has been sufficiently often corroborated by other investigators, so that we should not from a scientific viewpoint reject the possibility of self infection.

Abortion and delivery at term may be absolutely free from fever, but there may be streptococci in the uterine secretions, and when animal experiments are made with the cultures of such secretions, they prove pathogenic to the animal in most instances. This proves that freedom from elevation of temperature never assures freedom from micrococcic invasion of the uterine cavity. It also proves, what I have often contended for in discussions, the slight value, or practically none, so far as the treatment of a septic patient is concerned, of taking cultures from the secretions.

The symptoms of illness go hand in hand in their seriousness, proportionate to the virulence of the microorganisms. It seems that the presence of microorganisms spontaneously ascending into the uterus is dependent upon the presence of dead material in the uterus. When this is absent the organisms have no ground to exist upon.

The manner in which organisms ascend has been studied by Hellendall in a patient who had at no time been examined when she entered the clinic, and who had no elevation of temperature. It is needless to say that every conceivable precaution had been taken to prevent the introduction of microbes from without. A blood coagulum of the size of a walnut protruded from the external os. This was conveyed antiseptically into alcohol. On numerous transverse sections there was an irregular arrangement of many short, thin rods, which were present only on the superficial surface and absent in the center. These rods were identical with those found on the examination of the lochia on two subsequent examinations of several days' interval. It proved that the vaginal organism ascended on the surface of the blood coagulum into the uterine cavity.

Another source of infection may come from the peritoneal cavity by means of the Fallopian tubes, as in cases of appendicitis during pregnancy. In this manner the liquor amnii may become infected, and, secondarily, the fœtus, which accounts for the still births and abortions seen in such cases. Other ailments such as infectious diseases may likewise cause an infection of the liquor amnii *intra partum* and lead to a similar result. In infections of the liquor amnii during labor, external infection, however, plays a more important rôle than infection from any other source.

It has been experimentally proved that the liquor amnii is not infected by organisms migrating through the uterine muscularis, but, as already mentioned, through the Fallopian tubes, traveling by this route into the uterine cavity between the membranes and the uterine wall, from here into the placenta and through the membranes into the amniotic cavity.

Theoretically, the most rational method by which to combat septic infections is by means of serum therapy, analogous to the treatment of diphtheria with antitoxine, but, unfortunately, nearly all fatal cases of puerperal infection are examples of mixed infection.

The most recent contribution on the prognosis of puerperal fever as determined from examination of the blood has been made by Kownatzki of Berlin, from studies in the Imperial Charité. His conclusions are:

1. Favorable prognosis: If there is no deterioration of the neutrophile blood picture or only a slight one, the presence of eosinophile cells.

2. Unfavorable prognosis: Leucocytosis of more than 50,000 serious deterioration of the neutrophile blood picture, absence of eosinophile cells, decided diminution of the number of red blood corpuscles.

3. An improvement is shown by: Betterment of the neutrophile blood picture and the appearance or an increase of the eosinophile cells.

4. Retrogression is manifested by: A deterioration of the neutrophile blood picture, diminution or disappearance of the eosinophile cells.

5. Prognostically, absolutely uncertain: Appearance of poikilocytosis, combined with polychromatias and nucleation of the red blood cells.

39 EAST SIXTY-FIRST STREET.

DELAYED VALUE OF SURGERY IN EPILEPSY IN CERTAIN CASES.

By WILLIAM P. SPRATLING, M. D.,

SONYEA, N. Y.,

MEDICAL SUPERINTENDENT OF THE CRAIG COLONY FOR EPILEPTICS.

Surgical intervention for the relief of certain types of epilepsy possesses a value impossible to appreciate in certain cases until some years after the operation. I do not mean by this that relief is not at once attained by such treatment in certain carefully selected cases, but I refer particularly to instances in which the value of an operation seemed of little or no moment until two or three years later.

Epilepsy from trauma to the brain may not arise until years after the receipt of the injury. Certain tissue changes in the meninges must have time to occur, and they are often of slow progression.

Surgical operations for the relief of such conditions may do the patient no apparent good at the time, but they may also mark the beginning of an era of improvement that not infrequently terminates in a complete cure. In some of these cases the value of such treatment does not seem to come so much through the removal of pathological tissue, or of irritating agencies whose power to irritate may have become innocuous, as it does through the general impression the operation makes upon the organism.

In this respect surgical operations act not unlike certain diseases that, appearing in the individual in conjunction with some other disease, seem to remove the former entirely. I have known epileptics to be freed from further seizures on being attacked with pulmonary tuberculosis.

The delayed value of surgery in epilepsy was re-

to twenty, three times a day. I always give this in a glassful of water. Allow a mixed diet, carefully regulated as to the amount. In every case study the digestive powers and diet accordingly.

When the case is or becomes chronic, attention to the emunctories will be necessary as the first therapeutical measure; the same plan can be adopted here as is used in the treatment of the acute and subacute stages, the addition of static breeze to the back, and general galvanism will entirely relieve the patient.

In every case of this kind I advise the patient to wear woolen underwear in the summer as well as in the winter; the light wool is as well borne in the hot weather as the heavy is in the cold. All exposure to inclement weather is to be avoided; draughts of air and over crowded rooms as well as over heated apartments should be shunned. A change of scene, climate, and environment is most beneficial.

Dr. L. H. Schwerin, of the U. S. Navy, writes:

Lumbago is a painful affection of the lumbar muscles and their tendinous attachments, claimed by some to be a neuralgia of the sensory nerves of the muscles. It may be merely a transient affection, or it may be prolonged for some time, and again it may disappear, to recur at intervals.

As this article is intended to deal with the treatment only, nothing further than the treatment will be stated. In acute cases of lumbago the following treatment has produced very good results: Thorough massage of the affected area, using equal parts of aqua ammonia and water, for about five or ten minutes. The massage should be continued for a few minutes, using alcohol, two parts, and water, one part, instead of the ammonia and water. After having massaged as stated, a piece of paper or a piece of slightly moistened cloth should be placed over the affected area, and "ironed out" with an ordinary hot flat iron; this ironing out should be done for several minutes, care being taken not to burn the patient. It is a good plan to raise the cloth after passing the hot flat iron over it, and then replace it, for by so doing the patient will not complain so much of the heat as he would if this were not done. After having ironed out, gentle massage, with a little petrolatum or cacao butter, should be done, and a pad of cotton over the affected area applied. This cotton is to be kept in place by a bandage or by adhesive strips, so as to have a steady pressure on the area affected.

This treatment may be repeated as often as desired. It will be found that it will generally relieve the patient.

Should the patient have had previous attacks, it would be a good plan to add the following treatment: Oil of gaultheria, five minims, in a capsule, three or four times daily, and elixir of iron, quinine, and strychnine, three times daily, should be taken.

It will seldom be found necessary to resort to opiates to relieve the pain of lumbago if the stated treatment is pursued carefully. I have not found the ether spray and acupuncture, or the electric battery, to produce as good results as I have obtained by the treatment I have stated.

Persons subject to lumbago should take Turkish

or Russian baths, massage, avoid draughts and exposure to cold and damp, keep warmly clad, and use heavy wines, beers and other alcoholic drinks sparingly, if at all, preferably not at all. Mineral waters may be freely used.

Dr. Egil T. Olsen, of the U. S. Public Health and Marine Hospital Service, says:

The treatment of lumbago in the majority of acute cases presents no difficulty, the attacks usually yielding quite promptly, and only in exceptional cases have I found it necessary to resort to the more extreme measures recommended for the alleviation of this not uncommon complaint. The diagnosis is usually made without difficulty and need not be discussed.

In mild cases the patient is advised to remain indoors and in bed for twenty-four, or, better, for forty-eight hours if practicable. He is given calomel, 0.12 gramme (gr. ii), at bedtime, and a saline cathartic before breakfast the next morning. The administration of sodium salicylate, in combination with an alkaline salt (sodium bicarbonate being excellent), is begun at once, one gramme (gr. xv) of each, in solution, being given every four hours during the day. For the relief of pain, and to insure a comfortable night's rest, Dover's powder, 0.33 to 0.66 gramme (gr. v-x), according to the condition of the patient, is also given the first night when deemed necessary. The affected area is also massaged two or three times daily with chloroform liniment, or with the same preparation, containing ten per cent. of tincture of belladonna. It is well to restrict the diet also, and at the expiration of this period it will usually be found that the pain has subsided entirely, and the patient is able to resume his duties without discomfort.

In more severe cases the patient is put to bed after a hot bath. A heavy coat of tincture of iodine is applied to the affected area mornings and evenings, otherwise the treatment is the same. Instead of the application of iodine locally, I have sometimes employed, with good effect, massage of the affected parts with chloroform liniment, or the application of a mustard leaf to each loin, allowing them to remain until considerable erythema was produced. I have, however, found iodine to be the most efficient and easiest of application in this region. These measures usually suffice to control most attacks of moderate severity, the pain subsiding sufficiently in twenty-four to thirty-six hours to enable the patient to change his position and move about in bed with a fair degree of comfort. Occasionally, however, we have a case in which no amelioration of symptoms occurs in this time, and it then becomes necessary to resort to ironing (with a flat iron as hot as can be borne, a piece of flannel being interposed between the iron and the skin), vesication, the actual cautery, or acupuncture. Acupuncture, when used primarily, frequently yields most brilliant results, but many patients refuse to consent to its employment until other measures have been given a trial.

The treatment of subacute and chronic cases is often unsatisfactory and troublesome, but some cases yield readily to the treatment outlined. Others seem to be more favorably influenced by the use of other remedies, in addition to sodium salicylate, such as potassium iodide, or the various salts of lithium,

and in well-chosen cases, sometimes, pointed to the possibility of a more radical and more favorable. Not infrequently the use of nitric oxide gas, in some cases, has been found of service, although its use is very delicate. These patients should also be directed to avoid water, from the bowels, and, particularly, should be taken, looking to the right kind of the action of the bowels and of the skin. In the case of treatment of these cases, general treatment is not sufficient, the necessity for restoring the proper nutrition of the muscles and the proper nutrition of the muscles.

The diet is an important factor in all cases. I have found that better results are obtained, and in less time, when meats and all other nitrogenous articles of food are excluded, or at least reduced to a minimum, and all symptoms subside.

On account of its tendency to recur, individuals subject to this affection should be warmly clad, and should avoid, so far as possible, any exposure during inclement weather.

Dr. J. J. Long, of Syracuse, N. Y., writes:

There are two varieties of lumbago—the acute and chronic. The treatment of the acute cases is comparatively simple and very effective. I find that dry cups applied to the lumbar region affords remarkable relief. I cannot understand why cupping is so rarely done by the average physician, as the results following its use in the acute cases of lumbago are very good. The patient is given the following combination, to be taken internally:

R. *Uvae ursi*, 5 gr.;
Uvae ursi, 5 gr.;
 M. *Uvae ursi*, 5 gr.;
 Sig.: One teaspoonful in a glass of water every 4 hours.

The following liniment is prescribed:

R. *Uvae ursi*, 5 gr.;
Uvae ursi, 5 gr.;
 M. *Uvae ursi*, 5 gr.;
 Sig.: One teaspoonful in a glass of water every 4 hours.

The treatment of the chronic cases is more difficult, as many of these cases are very refractory. Drugs have very little influence. It is just this class of cases that offers a large field for physical remedies. General massage and scientific hydrotherapy can accomplish much, even in the most obstinate cases. This is my plan of treatment: The patient is told to take hot air or vapor baths, or hot tub bath (105° F.), followed by hot blanket pack twice a week. These sweat baths get rid of the toxic elements of the blood. The local shock douche consists in alternate sponging of the affected part with hot (120° F.) and cold water (50° F.), or, better, alternating hot (140° F.) and cold water (50° F.), several times a day against the lumbar region. These shock douches are very similar in action to that of the shock douche, on account of the rapid alternation of high and low temperatures of water. A most marked local effect is produced and a rapid reaction is brought about. These shock douches stimulate and improve the nutrition of the lumbar muscles, and should be given every day. General massage, with special attention to the lumbar region, is of great value in these cases. Hot fomentations to the

lumbar region can be used with advantage. If the compresses are thoroughly wrung out and if the lumbar region is greased with petrolatum there is no danger of burning the patient. These fomentations can be repeated every night.

As far as the diet is concerned, alcoholic drinks, excess of meat, tea, or coffee should not be permitted. These patients ought to drink plenty of water—eight to ten glasses a day. Sodium phosphate in tablespoonful doses before breakfast should be prescribed to keep the bowels open. The patients should be advised to wear woolen underwear, winter and summer.

To sum up the treatment: (1) Hot vapor baths or hot tub baths, two to three times a week; (2) Local shock douches every day; (3) General massage, with special attention to the lumbar region, three times a week; (4) Hot fomentations applied to lumbar region every night.

Dr. J. J. Long, of Syracuse, N. Y., writes:

This form of myalgia or muscular rheumatism is usually produced by lifting heavy weights or straining the muscle of the back. The patient, as a rule, is not seen until some time after the injury and complains of pain on the slightest movement which involves the muscles of the loins. The patient should be placed in bed and kept absolutely quiet, a saline cathartic be given, to be assured that the colon is not distended. The patient is given a mixture, as follows:

R. *Uvae ursi*, 5 gr.;
Uvae ursi, 5 gr.;
 White wax, 3i;
 Yellow wax, 5 gr.;
 M. *Uvae ursi*, 5 gr.;
 Petrolatum, 3i.

Sig.: Apply externally.

This is applied to the back three times a day, and the attendant directed to rub briskly for five minutes. The patient is then directed to lie on his abdomen. The back is covered by one or two thicknesses of a flannel bed blanket, and the back ironed with a laundry iron as hot as can be borne for ten minutes.

If the patient gives a rheumatic history, give sodium salicylate (gr. xv) every three hours. Many cases of lumbago have a tendency to assume a subacute or chronic nature, which is aggravated by the slightest cause. This class of cases demand a more vigorous form of treatment. I apply two or three cantharides blisters, one inch square, over the affected part, and allow these to remain for eight hours. The vesicles will be opened and an antiseptic dressing is to be applied, with a bandage about seven inches wide drawn firmly around the body. The blisters give relief to the pain in the affected part, and in some cases produce a cure, while in other cases the pain shifts to the gluteal, or sacral, region. This part is then again blistered.

In cases of long standing, internal treatment is of but little or no value. These cases are best treated by a galvanic current; one pole is applied over the gluteal, or sacral, region, and the other directly over the painful area. In the so called chronic cases the patient is directed to take a moderate amount of exercise, avoiding any exertion that will in any way strain the muscles of the loin. Massage is not to be forgotten here.

(To be continued.)

Therapeutical Notes.

The Action of Sodium Bicarbonate Upon the Gastric Secretion.—Linossier and Lemoine presented a report to the Société de biologie, Paris (*La Tribune médicale*), upon the effects of the administration of sodium bicarbonate. They found it to be essentially an excitant of the gastric secretion, and especially of the hydrochloric acid. This was most evident in cases of hypochlorhydria, but very feeble or absent in the cases of hyperchlorhydria. The experiments of Pawlow upon dogs with gastric fistula seemed to oppose the preceding observations, but this is explained on the ground that the animals were under very different circumstances from those of the human subjects, especially with respect to alimentation.

Phosphaturia in Infants.—Moll (*Revue de thérapeutique médicale et chirurgicale*) observes that we sometimes meet in the infantile clinic, the little patients eliminating, in their urine, an excess of lime phosphate. This is generally accompanied by general disorder, such as wasting, cachexia, chronic enteritis, vomiting, skin eruptions of a trophic character, sweating, abdominal pain, headache, restlessness, insomnia, and weakness. The treatment consists in regulating the diet by suppressing substances rich in lime, such as milk, eggs, and vegetables. The child is to be nourished with fats, sugar, meat, fruits, and starches. In one case it was observed that on resuming the ordinary diet too soon, the former symptoms recurred. Therefore, this should be undertaken only by degrees and the diet extended progressively, in order to maintain the definite cure of the disease.

Liquid Antiseptic Soap for Surgeons.—Wiebert, pharmacist to the German Hospital of Philadelphia, gives the following formula:

| | | |
|---|--------------------------|-------------|
| R | Cottonseed oil, | 300 c.c.; |
| | Alcohol, | 300 c.c.; |
| | Water, | 325 c.c.; |
| | Sodium hydrate, | 45 grammes; |
| | Sodium carbonate, | 10 grammes; |
| | Sulphuric ether, | 15 grammes; |
| | Phenol liquefact., | 25 grammes. |

The oil is placed in a flask, 100 grammes of alcohol added, as well as the sodium hydrate. The mixture is heated on a water bath, until it is completely saponified. It is then cooled, and the rest of the alcohol, and the sodium carbonate dissolved in water, are added. Finally, the carbolic acid and the ether are added, and the whole shaken and filtered. This soap is a yellowish liquid, with an ethereal odor, and an alkaline reaction.—*American Druggist*, April 23, 1906.

Perineural Injections of Alcohol for the Relief of Facial Neuralgia.—Levy and Baudouin (*Le Bulletin médical*, April 21, 1906) presented a series of patients before the Société de neurologie of Paris at a recent meeting, illustrating the beneficial effects in facial neuralgia, of injections of alcohol at the level of the trunks of the nerves at the base of the cranium. They had been treated at la Salpêtrière and were entirely relieved of pain by this procedure. Several of them had al-

ready submitted to various surgical operations; one of them had undergone resection of the cervical sympathetic, but without success. The reporters called attention to the simplicity of the technics. The only accident or complication that they had observed from this perineural injection was a transitory paralysis of the external motor oculi (abducens), but it only lasted a few days, and was cured without leaving any traces.

Acetanilide Poisoning.—Wainwright states in the *American Journal of Clinical Medicine* that the symptoms of acetanilide poisoning are cyanosis, weak and rapid pulse and heart, dilated pupils, subnormal temperature with cold extremities, feeble and shallow respirations, cold and clammy perspiration, marked prostration and collapse. The urine is apt to be scanty and to show considerable coagulum on boiling, be red in color (due to hæmatoporphyrin) with casts and epithelial cells. There may later be complete suppression of urine with acute diffuse nephritis. There will be marked hyperæsthesia over the abdomen, which will disappear probably upon manipulation. Superficial circulation is poor, jaundice progressive. Hæmorrhage from the bowels may occur. The smallest fatal dose of acetanilide recorded is five grains.

Fatal Effects from Benzin.—G. Burgl, of Nuremberg (*Münchener medizinische Wochenschrift*, 1906, 9 and 10), reports that the fatal dose of benzin in recorded cases varies between 10 and 40 grammes. The post mortem appearances of an acute case of benzin poisoning correspond in the main with those of death by asphyxia. With this occur, to less or greater degree, other pathological evidences of poisoning by carbon monoxide, combined with hæmorrhages (especially of large amount), in the lungs and also with inflammatory conditions of the lymphatic apparatus of the digestive tract. There is also present a characteristic odor of benzin, or of aniline. During life, the symptoms are: Sudden loss of consciousness; fixed, dilated pupils; cyanosis, feeble pulse; cold skin; and rapid superficial breathing; ending with convulsions, and fatal coma.

Administration of Strophanthin by Intravenous Injection.—M. A. Fraenkel reported that he had employed strophanthin by intravenous injection in doses of 0.75 gramme in 0.75 c.c. of water (grain $\frac{1}{85}$ in m. xii) (Proceedings of the International Medical Congress at Lisbon, in *La Semaine médicale*, May 2nd). The effect of the injection is manifested in three or four minutes. In cases of noncompensated cardiac affections the pulse becomes slower, dyspnoea disappears, and an enormous diuresis takes place. A single injection of strophanthin will relieve the gravest condition of asystole. The injections should not be too frequently repeated, because the remedy has the same cumulative action which is seen in all the other members of the digitalis group. Strophanthin does not have much influence upon arterial pressure, but it augments the amplitude of the pulse, and it is this action which causes the slowing of the rate and the production of diuresis. Venous stasis is often relieved by a single injection, but this effect does not continue

for more than one or three days. The internal administration of digoxin is approximately added to the treatment when the morning or the pulse and the intensity of diuresis have been suppressed by the compression. Digoxin is applied to the hypodermic injection of digoxin, which should be limited for internal administration. If a strong response, that the intravenous injection of digoxin will be of use in urgent cases of heart failure.

The Treatment and Prognosis of Severe Burns

When the treatment of the burned surface is directed, above all, to the removal of the toxic substances, it is necessary that the first thing to be done before anything else is to eliminate the fat tissue, such as cellulite, alcohol, glycol, emphysema, and fibrin, and to eliminate the toxic substances produced by the burning. The patient is instructed to drink water freely, and at the same time subcutaneous injections of physiological salt solution are made and extremely as practiced. The eschars are cleaned off, and the wounds dusted with an antiseptic drying powder, such as benzoin trilecithate. In the cases in which the burned area is less than the seventh part of the body, the use of vasolines and the introduction of large quantities of water will be sufficient in the greater number of cases to prevent the symptoms of grave intoxication, such as nausea, vomiting, bronchial congestion, and somnolence. If the burns occupy more than the seventh part of the surface of the body, the case is more serious, and it is necessary to resort immediately to the removal of the sloughs and necrotic tissue. If the burns extend over one third of the body, the required treatment is the same; but the prognosis is made much more grave. Finally, when the burned surfaces extend to or surpass one half of the body, the prognosis is very unfavorable. Treatment can scarcely do anything more than

Treatment of Acne Papulosa of Back and Shoulders.—1. Soap.

gives the following directions: Treat your patient's gastrointestinal tract before you begin to treat the disease. Proper diet and bathing are of paramount importance. Place the patient on a strict diet, and have the parts bathed daily with hot water and a mild soap. Internally prescribe

Treatment of Chronic Metritis.—Albert Robin

Journal de médecine de Paris) prescribes an irri-
n rising in the morning and at

gradually increased to 52.53° C.), using a fountain syringe of two quarts capacity at an elevation of 50 centimetres above the vagina. To this injection may be added potassium permanganate, corrosive sublimate, tannin, laundatum, or any other desired medicament. During the injection the woman's hips should be elevated and she should remain quiet for ten minutes afterwards. Rectal injections of hot water and alkaline baths are also employed. For local treatment, in addition to the irrigations, Robin applies tampons wet with glycerite of tannic acid, or vaginal suppositories of tannin and ichthyol. Ulcerations of the os are treated by applications of iodine. If there is deviation or flexion of the uterus it is corrected by appropriate treatment (columnization of the vagina). Internal treatment is not neglected. Where the discharge is copious, astringent drinks are given. Later, massage of the uterus should be practised. The following prescription is to be given in tablespoonful doses, morning and evening:

| | | |
|----------------------|------|-------------------|
| Sodii arsenatis..... | 0.05 | gramme, or gr. i; |
| Aqua destillata..... | | ounce, or 15 mss. |

The abdomen may be dressed with this ointment :

R Ergotæ, 3 grammes, or gr. xlv;
Potassii iodidi, 3 grammes, or gr. xlv;
Ext. nucis vomicæ, 1 gramme, or gr. xv;
Camdeni, 30 grammes, or ʒi.

A Simple Means of Relieving the Earache of

Acute Otitis Media.—In inflammation of the middle ear, previous to the time when paracentesis of the membrana tympani is required or before spontaneous rupture affords relief by permitting free vent to the discharge, the patient frequently demands immediate relief from pain. The ordinary local applications of cocaine, or phenol, combined with glycerin, are only partially successful. Neuman (St. Petersburg *moderate Hefen-schrift*, April 7th) has found a much more effective means of attaining the desired result. It consists in introducing into the external auditory canal compresses of cotton moistened with ordinary dilute lead water, which are also applied to the concha and its vicinity. This solution is made extemporaneously by adding water to Gonard's extract, forming *cau blanche*. This solution is heated to the boiling point, and a small piece of absorbent cotton, rolled into the shape of a cone about an inch long, is dipped into it, and then introduced into the auditory canal. The concavities of the external ear are next to be filled with small compresses, which are also moistened with lead water and applied as hot as the patient can bear it. Finally, the entire ear and surrounding parts are covered with three compresses, dipped into the same solution, but from which the excess of moisture has been removed by expression. One of them is placed in front of the ear, the other in the space behind the ear, and the third above the preceding two. The relief afforded by this is so great that the patient is enabled to await with tranquillity the time for paracentesis or the spontaneous opening the drum.—*Le Bulletin médical*, April 21, 1906.

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**THE BOSTON MEETING OF THE AMERICAN
MEDICAL ASSOCIATION.**

This year's meeting of the American Medical Association, which is to be held in Boston in the early part of June, will perhaps be notable primarily as a move from the Pacific to the Atlantic, the last meeting having been held in Portland, Oregon. Several of the association's meetings have been held in the East during recent years, but none in a large eastern city since the one in Philadelphia, in 1897. The activities of the West are mighty, no less in medicine than in other fields of human effort, and the time passed long ago when our western brethren felt that they were in any degree dependent upon the older communities of the Atlantic coast from the professional point of view. Nevertheless, it must always be gratifying to our western friends to visit the cradle of the nation.

The historic city of Boston was one of the chief scenes of the events that led to the founding of an independent republic in North America. There is that Faneuil Hall that in times long gone by echoed to the impassioned appeals of our forefathers, there is the common that figured in the school histories which we all studied in our childhood, there is the scene of the famous "tea party," and across the Charles River, in Cambridge, are the elms under which George Washington took command of the colonial forces. In another suburb, Charlestown, stands the majestic shaft that commemorates the bloodiest of the early battles of the Revolution.

Surely it is not alone he who, living in some

remote part of our great domain, looks upon these mementoes for the first time that thrills with a realization of the struggles of our ancestors; he who visits them repeatedly must ever be impressed anew with the same feeling, and even he whose American genealogy or his own existence in America dates from a period subsequent to the Revolution can be no exception.

But it is not for its historic associations solely that Boston is a fitting place of pilgrimage. To those who follow the profession of medicine the achievements of its physicians and surgeons must always remain memorable. It was there that the practicability of surgical anæsthesia was first demonstrated by Morton, it was there that Holmes proclaimed the infectious nature of puerperal fever, it was there that Bigelow devised and perfected litholapaxy, it was there that Fitz worked out the pathology of appendicular disease, it was there that Bowditch laid the foundation of the aspiratory treatment of effusions. And it is there that there will soon be in operation the greatest facilities for medical teaching that the New World has ever known. The Boston meeting cannot fail to be a source of gratification to those who take part in it.

THE PANCREAS, FAT NECROSIS, AND HÆMORRHAGIC PANCREATITIS.

Since Balser, in 1882, first called attention to fat necrosis, this subject has been extensively elucidated by the work of Langerhans, Chiari, Hildebrand, and Dettmer, and notably by Fitz, Welch, and Flexner. The latter has succeeded in producing acute hæmorrhagic pancreatitis by injecting artificial gastric juice into the duct of Wirsung. More recently Opie has produced hæmorrhagic pancreatitis and disseminated fat necrosis by injecting bile into the pancreatic duct in dogs. He has also shown that penetration of bile into the pancreas may be the cause of this condition in the human subject. By ligating the pancreatic duct in cats, he has also been successful in producing extensive necrosis of the abdominal fat with foci in the subcutaneous tissue and the pericardium. Langerhans has produced fat necrosis by injecting extract of pancreas into the circumrenal fat of the dog. The fact has also been demonstrated by numerous other experimenters that necrosis of the fatty tissues may be produced by the local action of pancreatic juice. It has been shown by Flexner that it is to the fat splitting constituent of the pancreatic secretion that the fat necrosis is due.

Chiari, of Prague, in a communication read before the Section in Pathology of the Lisbon Inter-

autolysis. (Hutchinson, *Lectures on Diseases of the Digestive System*, 1888, p. 100.) The autolysis of the pancreas is an important pathological process in the etiology of the disease. For its initiation by the action of the proteolytic enzymes of the pancreas itself, the condition is called "self-digestion." The process is possible only after the escape of pancreatic juice into surrounding tissues. This is accounted for by the frequency of rupture of the pancreas in cases of fatty tissue necrosis of the pancreas. Exceptionally, this may occur in the absence of any traumatic solution of continuity of the pancreas. These exceptional cases are explained by Chiari on the assumption that they are instances of self digestion of the gland, because, under certain circumstances, the proteolytic ferment is capable of digesting the pancreas itself in a manner strictly analogous to the peptic digestion of the stomach which is said to occur not only after death, but also during life.

From this point of view, it is seen that what have been called cases of acute pancreatitis (hæmorrhagic or gangrenous), and also apoplexy of the pancreas, and which have been regarded as "traumatic," are really only instances of self digestion of the pancreas. The causes of this process are, sometimes, local disorder of the circulation. At other times there may be impeded escape of the secretion or the digestive activity of the pancreatic juice may be exaggerated by the presence of a kinase. The practical lesson from Chiari's communication is that, whatever may be the particular form taken by the disease, it is the pancreas which is primarily at fault, and therefore the condition is one which may be treated on a local basis. Whatever may be the relations existing between the pancreas and the fatty tissue necrosis, an early surgical operation is the only hope for the patient. This should be borne in mind in dealing with cases of abdominal contusion.

pox which had been discovered in the region on Saturday, the 6th. Three or four other cases had also been reported from the district during the preceding four weeks or so. While the isolation was maintained by the police the assistant medical inspectors went through the district, vaccinating those who were unprotected. It is estimated that 1,000 persons were vaccinated. We hope that this manifestation of paternalism on the part of the health authorities of Philadelphia may not turn out to have been a bad precedent.

LUMBAGO.

This is the subject of the Readers' Discussion which is opened in this issue of the *Journal*. Our contributors have handled it very satisfactorily, but perhaps it may not be amiss to say a few more things on the topic. In the first place, lumbago, an ailment of which the pathology is by no means clear, has a natural tendency to subside spontaneously within a comparatively short time, and often rather suddenly; hence whatever therapeutic measure is resorted to last in the course of a case is apt to be credited, quite undeservedly, with having effected a cure. This should be borne in mind when we come to generalize with regard to the treatment.

We doubt if dieting or any form of regimen has a pronounced tendency to shorten the duration of lumbago, we question if the patient's accustomed use of alcohol should be interdicted, and we are very sure that the proscription of tobacco is entirely uncalled for. We know of no shadow of evidence that the use of tobacco is capable of aggravating lumbago, and we can imagine no other reason for forbidding it than the plan—unfortunately still too common in medical practice—of taking it for granted that anything which is pleasant for a sick man is necessarily injurious to him. The sooner we rid ourselves of such a rule of practice, even if it is followed unconsciously, the better.

Then there is the stereotyped advice to keep a lumbago patient in bed. For what reason? True, a quiescent state of the muscles affected brings freedom from pain, but how much real quiescence does a man get in bed? Unless he is one of those clamlike creatures that lie as motionless as a log, he is sure to try to turn over almost as soon as he falls into a doze, and doze he will if he has to lie in bed. As soon as he begins to turn he is almost sure, if the case is at all a severe one, to be seized with a lightninglike spasm of the dorsal muscles, and it is true that many a victim of lumbago suffers more at night than during the day.

What the muscles of the back need in many cases of lumbago is active exercise. The ironing process, faradization, acupuncture, irritating applications, and massage are doubtless all productive of temporary relief, but as a rule they are inferior to muscular exertion. We are aware that it is torture for a person with lumbago to rise from his chair and walk off, but the lameness will be much mitigated in a few minutes, and then walking will bring decided relief for the time being and, we believe, abbreviation of the trouble. Luckless is he who, having lumbago, is obliged to travel on a street car, but he may ameliorate his sad lot. Let him not sit down even if, by some miracle, there should be a seat at his disposal, for when he reaches his destination he will be in no condition to "step lively." Let him rather endure the state of the "strap hanger" during the journey; thus will he the better be able to leave the exasperating conveyance without inflicting an unnecessary wrench upon his suffering muscles.

A NEW MEDICAL REGENT.

The profession is to be congratulated on the fact that Dr. Albert Vander Veer, of Albany, has become a member of the Board of Regents of the University of the State of New York. It is not alone Dr. Vander Veer's brilliant career as a surgeon that qualifies him for such an important office; it is quite as much his long and creditable activity in matters pertaining to education, especially in medicine, as well as his exceptionally clear insight into measures affecting the interests and dignity of the medical profession.

INOCULATION AGAINST THE PLAGUE.

The first attempt at the treatment of plague with antitoxic serum was made by Yersin in 1895 (*Annales de l'Institut Pasteur*, 1895, p. 589). The serum was prepared by injecting *Bacillus pestis*, killed by heating to 136° F., into horses, after the manner of the preparation of diphtheria antitoxic serum. This serum was found beneficial, not only in the treatment of plague, but also as a prophylactic. Haffkine's prophylactic, which was introduced in 1897, consists of a pure culture of *Bacillus pestis* in bouillon containing fat, in which the bacilli have been killed by keeping them at a temperature of 158° F. for an hour. A résumé of the results obtained by the employment of these substances, by Riesman and Swan, will be found in the *University Medical Magazine*, November, 1900, p. 668.

In 1902 and 1903 Kolle and Otto succeeded in inoculating guinea pigs with attenuated living cultures of *Bacillus pestis* (*Zeitschrift für Hygiene und Infektionskrankheiten*, 1903, p. 507). Subsequent reports by Kolle, Hetsche, and Otto (*Zeitschrift für Hygiene und Infektionskrankheiten*, 1904, p. 368) indicate that it is quite possible to produce a high degree of immunity to plague in the guinea pig, which, as is well known, is a very susceptible animal. If such results can be obtained in the guinea pig, it is reasonable to suppose that results as satisfactory can be obtained in man. The problem is a delicate one and requires a technique of the utmost rigidity for its satisfactory solution. Strong (*Philippine Journal of Science*, February, 1906) has made an attempt to inoculate man by the injection of attenuated cultures of *Bacillus pestis* with some success. He obtained two attenuated strains of the organism from Professor Kolle, and used also an old Manila culture which had been grown continuously upon artificial media for three years, its virulence having been still further reduced by the method recommended by Otto. The human inoculations were performed as carefully and with as much deliberation as possible, although it was presumed that if the guinea pig could invariably withstand large doses of a certain strain, smaller quantities could be inoculated into human beings with safety. The first injections were made in prisoners under sentence of death. The amount of living organisms given was gradually increased, a single person being first inoculated with the larger dose and then, after it had been observed that no unfavorable effects occurred, from five to ten other persons were also treated with the same amount. Finally, one whole agar slant was inoculated. Up to the time of writing, forty-two persons had been injected with this large dose (one twenty-four hour agar slant culture) of the living bacillus, and, although the inoculations had been made two months before the writing and the individuals had been under constant observation, no accident had resulted. A few hours after the inoculation the temperature of the patient usually begins to rise, and if the injections are given in the morning, the evening temperature is from 102° to 104° F. On the following day the temperature is about 102° F., and on the third day it is normal as a rule. Occasionally there was a moderate leucocytosis after large injections. The organisms were always suspended in one cubic centimetre of 0.85 per cent. saline solution, and the inoculations were made deep into the deltoid muscle. On the day after there was usually distinct induration about

the point of inoculation, with some extension in amount but these organisms obtained in one or two cases. The organism itself occurred. The method usually consists of washing against the effluence of other colonies of bacteria from the surrounding tissue. Investigation should not be made as soon as the investigator can guarantee the organism with which he is working is one of sufficient virulence to be so far from damaging the human lungs.

THE PULMONARY COMPLICATIONS OF TYPHOID FEVER.

The respiratory symptoms of typhoid fever include a dry, inflamed, scratchy, a similar catarrhal laryngitis, tracheitis, and bronchitis. Epistaxis due to the nasal inflammation is common and sometimes troublesome. The respiratory complications of the disease are not rare; ulceration of the larynx, bronchopneumonia, lobar pneumonia, hypostatic pneumonia, pleurisy, and abscess of the lung have been described repeatedly, and exudative pharyngitis, laryngitis, and bronchitis have been seen more rarely. Are these symptoms and complications due to the action of the *Bacillus typhosus* on the affected parts, or are they due to the invasion of other organisms, such as staphylococci, streptococci, and pneumococci, into tissues of a resistance lowered by the action of the toxic products of the *Bacillus typhosus*? The recent successes of the bacteriologists in obtaining the *Bacillus typhosus* from the blood in a large percentage of cases of typhoid fever early in the course of the disease would point to that organism as the cause of these respiratory symptoms and complications. On the other hand, failure to obtain the bacillus from the lungs in fatal cases of pneumonia and the development of the pneumococcus in the culture media point to the latter method of production of that complication. No doubt both methods of development are active, in one case the one, in another case the other.

Wheeler (Philadelphia Medical Journal, *Journal of Philadelphia*, viii, 6) reports the case of a man who had been in the hospital with typical typhoid fever for twenty-seven days, when he was suddenly seized with the symptoms and signs of lung infarction, after which he became decidedly worse and died eight days later. At the autopsy the main artery leading to the lower lobe of the right lung was found thrombosed and that lobe almost entirely converted into an abscess cavity. The pus of this abscess contained the bacillus, and that organism was found in the broncho-

pneumonic areas in other portions of the right lung and in the left lung. He also reports the case of a man who died on the eighth day of a disease in which the typical signs of pneumonia were found. At the autopsy lobar pneumonia of the hæmorrhagic type was found. In the tissues of this pneumonic area an organism of the beta type of *Bacillus paratyphosus* was obtained, while a pneumococcus-like organism was found in smears from the lung exudate. He further records a case in which the *Bacillus typhosus* was obtained from the sputum of a patient in the twenty-ninth day of typhoid fever complicated by lobar pneumonia. From these three cases and from the consideration of similar cases recorded by many observers Robinson concludes that the typhoid bacillus not infrequently invades the lung during typhoid fever; that it may invade areas of the lung already the seat of hæmorrhagic infarction and there produce abscess and gangrene; that the *Bacillus typhosus* may cause bronchopneumonia; that lobar pneumonia complicating typhoid fever is usually due to the pneumococcus, which may be present in the circulating blood simultaneously with the *Bacillus typhosus*, though it is probable that both *Bacillus typhosus* and *Bacillus paratyphosus*, beta type, may produce lobar pneumonia (the pneumonia due to these organisms being recognizable clinically by the bloody nature of the sputum); and that the typhoid bacillus is not infrequently found in the sputum of typhoid fever patients who are suffering from pulmonary complications. This fact shows the necessity of careful disinfection of the sputum of such patients.

AN ADMONITION FROM MR. BERNARD SHAW.

Mr. Bernard Shaw is credited with having said at a recent meeting of the British Union for the Abolition of Vivisection that "when it was a question of earning sixty guineas in an afternoon, it was a very strong temptation to a man who could do that by performing an operation to believe that an operation was necessary where it was not necessary." "He did not say," the report continues, "that the surgeon actually knew that an operation was unnecessary, but if they gave a man sixty guineas to believe a thing, he would have a strong disposition to believe it." Are we to infer from this repetition of the expression "sixty guineas" that Mr. Shaw regards that sum as the prevailing charge for an operation without regard to its nature? We fancy our British colleagues might have something to say on that point.

The Boston Meeting of the American Medical Association.

THE city in which the annual meeting is to be held in June, Boston, is a place of great historical interest and one that is prominent among American medical centres and surely destined to become more so. The illustrations which we publish in this issue show various features of the city with which all Americans are more or less familiar from their reading. Many of them who now behold them for the first time will thrill with memories of the sufferings and daring deeds that are intimately woven into the fabric of the history of our country. Apart from its historic features, Boston is in itself an interesting and attractive city. In the old parts of the town there are still preserved streets, alleys, and structures that were once familiar in large towns, but are now rarely encountered in our American cities.

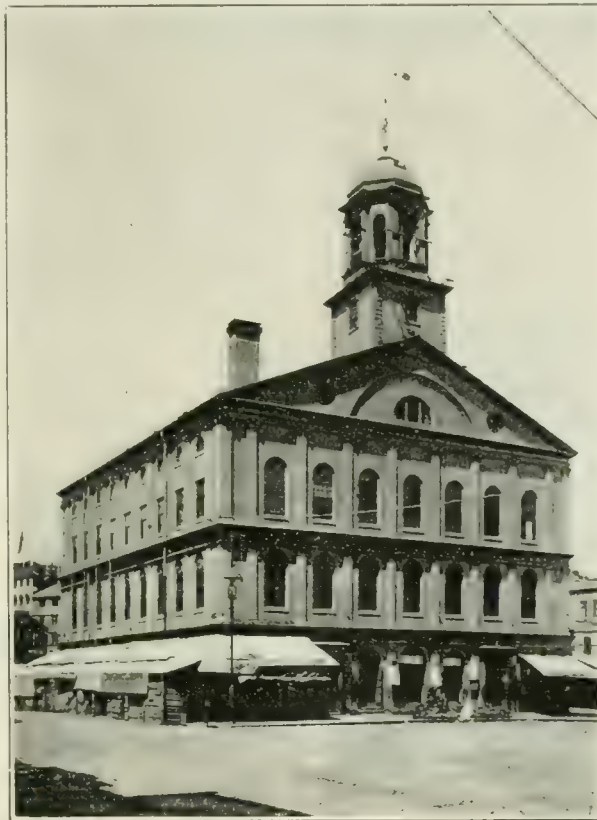
There is much in Boston to interest medical men. The particular objects of interest are the Massachusetts General Hospital and the Harvard Medical School. The hospital, founded in the year 1814, is one of the three famous old American hospitals, the two others being the New York and the Pennsylvania, both of which are several years older than their sister institution in Boston. The Massachusetts General Hospital will live perpetually in memory as the scene of the first public demonstration of the practicability of surgical anæsthesia. In its old operating room, in the year 1846, Dr. Morton, then a student of medicine, first publicly administered ether to a man on whom Dr. Warren performed an operation in the presence of several medical men and the students of the Harvard Medical School. The old amphitheatre no longer exists in the form that it had in those days, having been superseded by a modern operating theatre which is shown in one of our illustrations. There are other interesting hospitals in Boston, particularly the Boston City Hospital, which is a very large institution and is memorable as being the first American hospital to issue regularly annual reports which, in addition to the statistics of the hospital, presented essays in medicine and surgery founded on the work of its medical and surgical staff.

The Harvard Medical School, which within the

memory of men now living was housed in a very commonplace building in North Grove Street, near the Massachusetts General Hospital, which, however, was accessible to students only by a circuitous route through the streets, was moved several years ago to a much more adequate structure in Boylston Street. This, in turn, it has now outgrown, and it is a matter of hearty congratulation that the school has of late years been so richly endowed that it will soon be moved to its new buildings, a description of which follows. The Harvard Medical School will then be peerless among all similar institutions on the American continent if not in the entire world.

The new Harvard Medical School, to be occupied in the fall, consists of five buildings, covering an area of about ten acres.

The buildings face a quadrangle the main approach to which is from Longwood Avenue. Upon a high terrace at the opposite end is the administration building. On either side are the laboratory buildings, which face the quadrangle. This quadrangle is terraced to equalize the land grade and to provide a suitable setting for the buildings, which are of white marble. The administration building has a front portico, with marble columns over fifty feet high, and is approached by broad flights of steps. Opposite the main entrance is a broad stairway leading to the



Faneuil Hall.

upper floors. On the right of this floor are the school offices and faculty, committee, and janitor rooms, while on the left are rooms for students, alumni, reading, and smoking. In the basement are the x ray department and rooms for bandaging instruction, for lockers and heating, and ventilating apparatus. There is also a room for receiving museum specimens, and from this to the museum there is elevator connection. This basement is connected with the basements of the other buildings by corridors. Lecture and class rooms occupy the second floor, an amphitheatre being at the left wing. The class rooms for students' use are fitted with chairs and tables, as well as with platforms and screens for projection work with lanterns. The Warren Museum occupies the upper floor, which with the two galleries gives a total area of 22,000 square feet. The galleries are of steel and glass,



THE BUILDING OF HISTOLOGY AND EMBRYOLOGY

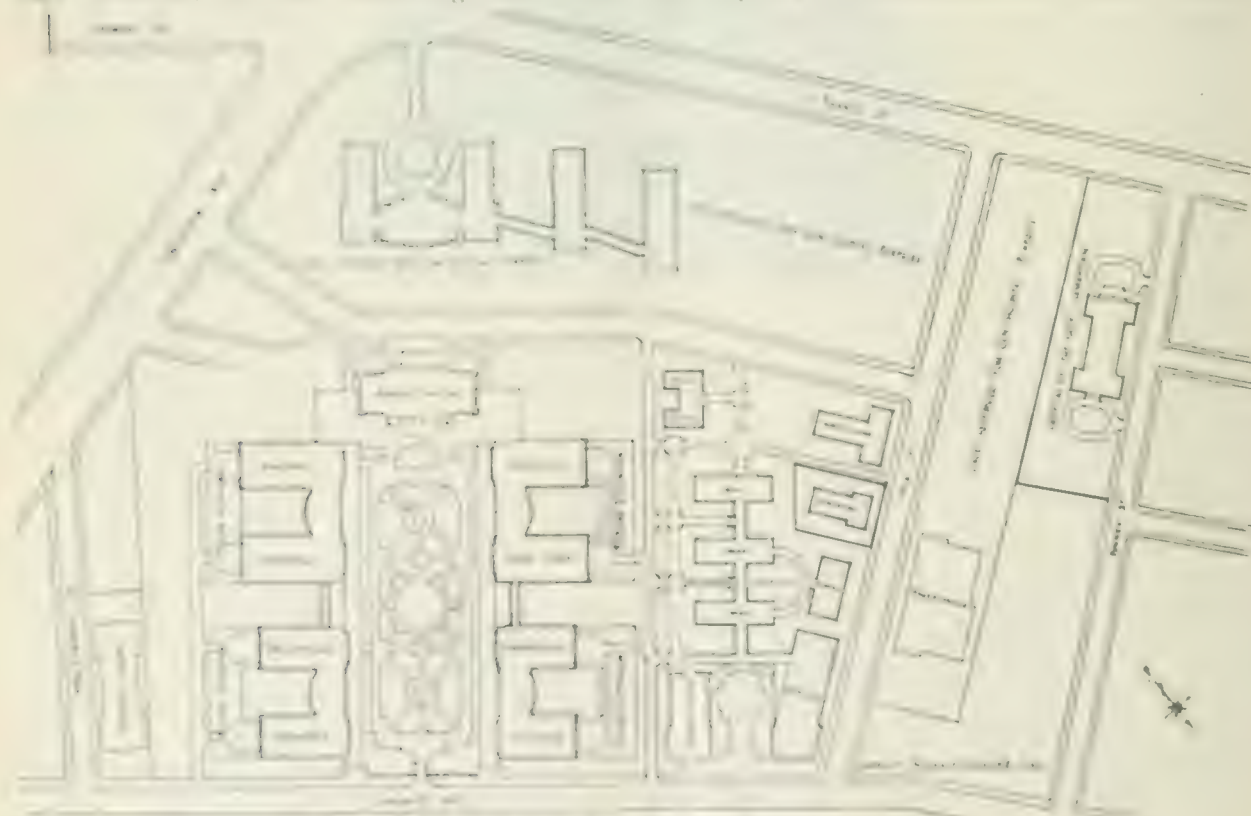
and are supported by Portland cement columns, big and light in the center. The service rooms, corridors, etc., are paved and the steel equipment appears. At the entrance are the complete hall dressing rooms.

Leaving these dressing rooms from this building, the first building to the right is devoted to anatomy and surgery. This entrance to this part of the entire laboratory buildings is into the basement, which is directly above the terrace in front, each wing having an separate entrance through a doorway ornamented with pilasters. The rear part of the basement is the anatomy wing is shut off from the remainder of the building with a doorway entrance for the proper handling of anatomical specimens. There is also a laboratory room with movable racks and long enough to accommodate the subjects. The rooms are finished and are of glazed tiling. The entrance is by stairs. There are also cold and dressing rooms. Near the front entrance is an elevator for passenger service and transporting anatomical material. The typical dissecting room is 24 feet wide and 30 feet long, lighted by three large windows, has four dissecting tables and

has accommodations for twenty students. There are floor drainage, sinks, work benches in front of windows, mirrors, drawers and a specimen closet complete the room equipment. Part of the first floor of the anatomical wing is for operative surgery, with special appliances. On the second floor are demonstration and preparation rooms. The former is carefully planned both as to greatest seating capacity and a clear view of the subject under demonstration. The main stairs and elevator continue to the roof, where the corrosion and macerating rooms are isolated.

Histology and embryology are to occupy the main portion of the north wing of this building. Here are typical students' laboratories, 23 by 30 feet, with accommodations for twenty-four students and arranged for desk work with microscopes. In the basement of this wing are rooms for instructors in comparative anatomy, with a special entrance for admitting large animals, a room for aquaria and section teaching rooms.

The physiology and physiological chemistry building is directly opposite that devoted to anatomy and histology. On the lower stories of this building are the laboratories and larger rooms,



THE PHYSIOLOGY AND PHYSIOLOGICAL CHEMISTRY BUILDING



The Massachusetts General Hospital.

while the upper floors are given up to small rooms for research work. The roof is devoted to animals, with cages, pens, and exercising space. Both of the above mentioned departments have animal operating suites on the floor below. The physiological laboratory is of the typical size and equipped with desks well provided with the necessary fittings. The laboratories and other rooms have tiled lined hoods provided with compressed air and gas connections. A part of the corridor on two of the floors is for ophthalmoscopic work.

On the first floor of the chemistry wing is a large students' laboratory with rows of students' desks running from the piers enclosing the structural columns to the side walls. The sinks and hoods are around these piers. Connected with the laboratory are rooms for issuing supplies. In the basement is a laboratory for advanced work. In the front of the building are private laboratories for the teaching corps. The tops of the tables in the students' laboratory are of glass and acid resistant. All of the work tables are equipped with recessed outlets for gas and water. There are also water supplies for vacuum pumps and electrical heating connections and a distilled water supply. In the small laboratories the hoods have glass floors and above the floors they are built of galvanized iron coated with asphaltum,

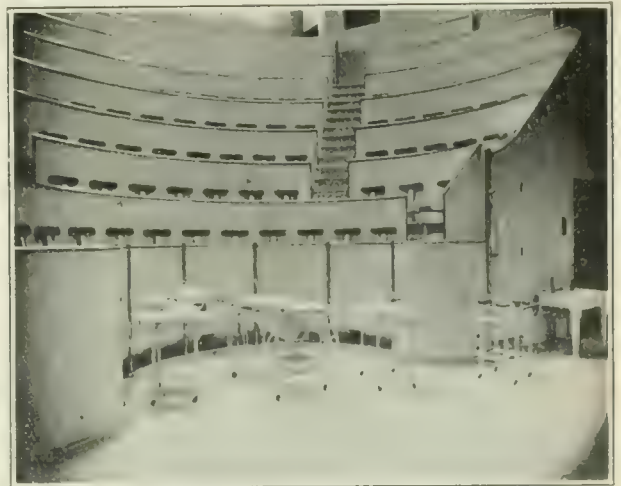


Plan of General Hospital

the back walls being of glass and tile. Steam baths are abundantly supplied. In the upper portion of the building are rooms for microscopic work, the table being provided with a special light from below projected directly through the slide to replace minor reflection. There are also rooms for balance work and for refrigeration; the latter are cooled by brine. In the basement is a room for combustions and another for centrifuge

work. In laboratories where explosions are likely to occur resulting in fires, emergency showers are provided for protection of both laboratories and workers.

The building for bacteriology and pathology has one wing devoted to laboratories; the other



Operating room, Massachusetts General Hospital.

is divided into mezzanine stories, giving space for research and similar work. The demonstration rooms are across the corridor from the laboratories. The rear of the basement is used for photographic and photomicrographic purposes, with dark rooms and ample protection from actinic light. On the upper floor the typical research room has a window table and sink fitted with electricity and gas. There are also sterilizing, incubator, and chemical rooms.

Surgical pathology is also located in this wing. Here are the private laboratories and rooms and arrangements for constant temperatures. An animal house is located between the wings.

The next building is for hygiene and pharmacology, and comparative pathology, and surgical research. The hygiene and pharmacology departments are in the front portion of the two wings. There are laboratories and research and pro-

lecture rooms. Each room is a classroom for food products and appliances relating to public health. Lecture, operating, and recovering rooms are also provided. A convalescent building is also in this group. This is well equipped with laboratory, research, and private rooms. There is a room for surgery and provision in the center of the main building. Surgical research is in the main wing of the building with a laboratory and some operating rooms.

In the construction of these buildings the most science is not lost in the building process. The unit adopted is a room 10 feet long and 23 feet deep, with the window coming in the middle of the 10 foot exterior wall space. This idea permits of future change without alteration of design. The laboratory buildings are made up of wings with laboratories on either side of the corridor. The units are repeated in these wings, each unit containing a window. The heating and ventilating arrangements are in the corridor. Some little provision has been made for changes which may be necessary through growth in learning methods.

Affiliated departments are placed in the same building. An amphitheatre is in the central portion of each laboratory building occupying the basement and first floor. The second floor is for library use. These central rooms are for use by all departments. In the amphitheatre the floor chairs are arranged on curved tiers, one above the

other; seating capacity about two hundred and fifty. The acoustic properties have received attention, and provision has been made for excellent lecture halls. The library in the physiology and physiology building is one large room provided with library stacks in the rear.



Medical Library

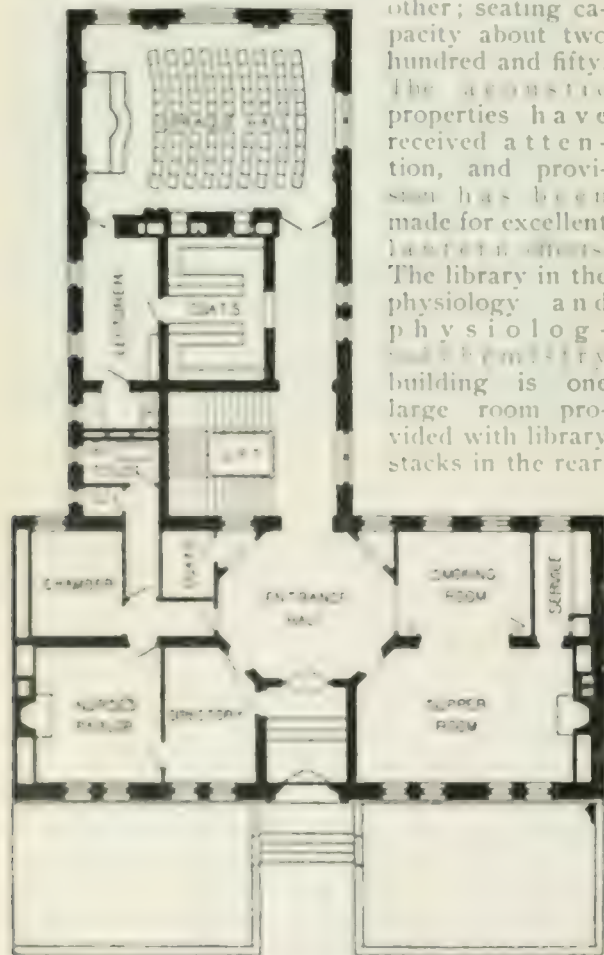
In the other buildings the libraries are divided into reading and periodical rooms.

The administration building and laboratory buildings are of fire proof construction.

The power house is some distance from the main buildings, and is connected by tunnels with the other buildings. The hot water system has been adopted for heating purposes. In rooms where radiators cannot be used the heating is done by passing air over hot water pipes. The ventilation is by forcing screened and heated air into the rooms and removal of foul air by means of roof fans. The refrigerating plant is located in the power house. The lighting is by electricity.

These buildings are on a lot of about twenty-six acres and the other portions are to be occupied by hospitals. One is to be devoted to children and the other to infants. It is hoped that the trustees of the Peter Brigham Fund will soon be in a position to build on a portion of the land. Then a large series of laboratories with a group of hospitals for clinical medicine would be available, and make it possible for the heads of hospital departments to teach their specialties in the medical school.

Harvard University, as everybody knows, is situated in the city of Cambridge, separated from Boston by the Charles River, and has always been one of the most noted institutions of learning in the country. Those who visit Boston for the purpose of attending the meeting of the American Medical Association should not fail to visit the university. In particular, no one should neglect the opportunity of examining the matchless and really wonderful collection of glass models of botanical specimens. It is true that most of the plants represented are not medicinal, but the models afford such a realistic demonstration





Boston City Hospital.

of the facts of botany that they must inevitably fix in the minds of the beholder accurate ideas concerning a science which is constantly growing to be more and more appreciated as one of the prerequisites of medical study. The Agassiz Museum is also well worth a thorough examination.

The new building of the Boston Medical Library, situated on the Fenway, in Boston, is another institution that the visiting physicians will find of exceeding interest, also the Museum of Natural History.

The suburbs of Boston are among its special glories. They are indeed beautiful, and they are easy of access, and the time spent in visiting them will be profitably employed. The hotels of Boston, its theatres, its churches, its art collections, its general and special educational institutions, its clubs, its shops, and its wharves—in short, all that one expects to find in a wealthy and enlightened community—should leave no excuse for unoccupied moments.

THE MEETING.

The first general session of the association will convene in Mechanics' Hall, at the corner of Huntington Avenue and West Newton Street, on Tuesday, June

The oration in medicine, by Dr. F. C. Shattuck, of Boston, and the oration in surgery by Dr. Joseph D. Bryant, of New York, will be delivered at the second general session, which will be held in Jordan Hall, on Tuesday evening, June 5th, at 7.30. Dr. W. H. Sanders, of Montgomery, Ala., will deliver the address in State medicine at the third general session, which will be held at Jordan Hall on Wednesday evening, June 6th, at 7.30.

The sessions of the House of Delegates will be held in the Boston Medical Library, on The Fenway, the first session convening on Monday, June 4th, at 10 a. m.

MEETING PLACES OF THE SECTIONS.

The sections will meet at the following places: In the Practice of Medicine, at the Young Men's Christian Association Hall; in Obstetrics and Diseases of Women, at Chickering Hall; in Surgery and Anatomy, at Jordan Hall (except on Wednesday, when there will be a joint session with the Section in Medicine at the New Old South Church); in Hygiene and Sanitary Science, in Stomatology, and in Pharmacology and Therapeutics, at Tufts College Medical School; in Ophthalmology, in Diseases of Children, in Nervous and Mental Diseases, in Cutaneous Medicine and Surgery, in Laryngology and Otology, and in Pathology and Physiology, at the new Harvard Medical School.

The following notes will serve as a guide to the



Massachusetts Institute of Technology

5th, at 10.30 a. m., when addresses of welcome will be delivered by President Eliot, of Harvard University; Dr. A. T. Cabot, president of the Massachusetts Medical Society; the Honorable Curtis Guild, governor of the State of Massachusetts; and Charles F. Fitzgerald, mayor of the city of Boston. Dr. Herbert L. Burrell, chairman of the committee of arrangements, will then announce the details of the programme for the week and the president elect, Dr. William J. Mayo, of Rochester, Minn., will be duly installed.

reader in locating the places of meeting of the various bodies of which the association is composed:

Mechanics' Hall, Huntington Avenue and West Newton Street.

Boston Medical Library, The Fenway.

Jordan Hall, Huntington Avenue, near Massachusetts Avenue.

New Harvard Medical School, Longwood Avenue.

Tufts College Medical School, Huntington Avenue.

Young Men's Christian Association Hall, Boylston and Berkeley Streets.

News Items.

NEW YORK CITY AND STATE

Change of Address. Dr. Charles B. Kelsey, to 44 East Twenty-ninth Street.

Resigned.—We are informed that Messrs. Scott and Bowne have resigned from the Proprietary Association of America.

Personal. Dr. Austin Flint, professor of physiology in Cornell University Medical College, has tendered his resignation. The Kingston, N. Y., board of alms commissioners has recently appointed Dr. Elbert H. Loughran city physician for the western district, and Dr. Frederick Huhne for the eastern district. Dr. Lorenzo B. Chapman, for many years a practitioner at Oneonta, N. Y., has been obliged, by failing health, to relinquish his practice and has gone to California to rest and recuperate.

The Society of Physicians of the Village of Canandaigua, N. Y.—At a meeting held on Thursday, May 10th, Dr. John H. Jewett, of Canandaigua, was to read a paper on *Purpura Hæmorrhagica*.

Changes of Address in Buffalo.—Dr. Harry R. Trick, to 1195 Main Street, corner of Dodge Street. Dr. Lee Master Francis, to 482 Delaware Avenue. Dr. George F. Cott, to 1248 Main Street. Dr. Edwin R. Gould, to 160 Jefferson Street.

The Medical Society of the County of Madison, N. Y., celebrated its centennial at Oneida, on Tuesday, May 8th. Officers for the ensuing year were elected as follows: Dr. A. P. Dodge, of Oneida, president; Dr. H. G. Germer, of Canastota, vice-president; Dr. George W. Miles, of Oneida, secretary; Dr. S. J. Wilson, of Oneida, treasurer.

The Buffalo Academy of Medicine.—At a meeting of the *Section in Medicine*, held on Tuesday, May 8th, Dr. Franklin W. Barrows was elected chairman for the ensuing year and Dr. T. J. Wells was elected secretary. At a meeting of the *Section in Surgery*, held on Tuesday, May 1st, Dr. Harry R. Trick was elected chairman for the ensuing year and Dr. W. J. O'Donnell was elected secretary.

The Medical Society of the County of Columbia, N. Y., celebrated its centennial at Hudson, on Tuesday, May 8th. The programme prepared for the meeting included the following titles: *Neurasthenia and Its Treatment*, by Dr. R. B. Lamb, of the Matteawan State Hospital; *X Ray Therapy*, by Dr. A. F. Holding, of Albany; *Diseases of the Thyroid Gland*, by Dr. George E. Beilby, of Albany.

The Medical Society of the County of Seneca, N. Y.—At a recent meeting, held at Waterloo, this society was reorganized in accordance with the by laws of the Medical Society of the State of New York, and officers were elected as follows: President, Dr. George A. Bellows, of Waterloo; secretary-treasurer, Dr. C. B. Bacon, of Waterloo; both reelected. The membership of the society was increased by the election of twenty-one new members.

The Syracuse Academy of Medicine.—The following programme was prepared for a meeting, held on Tuesday, May 15th: A Report of a Case, by Dr. G. H. Rockwell; Report of Cases Treated by the High Frequency Current and Vibration, by Dr. W. J. R. McFarland; Infantile Indigestion, by Dr. A. A. Young, Newark, N. Y.; Borderland Cases of Insanity, by Dr. H. G. Locke; Observation on the Study of the Peritoneum—200 Dissections, by Dr. F. L. Deaver.

A Proposed New Hospital for New Rochelle.—Mr. C. O'D. Iselin is said to have offered to give \$40,000 for a new hospital for New Rochelle, providing the citizens will raise \$60,000, so that a \$100,000 modern fireproof building can be erected and furnished. The gift, it is understood, will be a memorial to Mr. Iselin's father, the late Adrian Iselin. The proposition has been accepted by the local hospital management, which has already subscribed \$20,000. The rest will be asked from the general public.

The Orleans County (N. Y.) Medical Association.—At the annual meeting, held at Albion, during the second week of April, the election of officers resulted as follows: President, Dr. Edward Munson, of Medina; vice-president, Dr. F. B. Storer, of Holley; secretary-treasurer, Dr. John Dugan, of Albion; censors, Dr. J. F. Eckerson, of Shelby, Dr. John E. Sutton, of Albion, and Dr. J. H. Taylor, of

Holley. The next meeting will be held during the first week of June.

The Medical Society of the County of Richmond, N. Y.—The programme for a meeting, held at the Staten Island Academy, on Wednesday, May 9th, included the following paper: *The Geology of Staten Island Water*, by Dr. Arthur Hollick, of New Brighton; discussion by Dr. Walser and Dr. DeRevere. At a special meeting, held on Wednesday, May 16th, Professor Duhrssen, of Berlin, was to read a paper on Anterior Vaginal Section, to be discussed by Dr. Bryan and Dr. Walser.

The Medical Society of the County of Lewis, N. Y.—A meeting of this society was held at Lowville, on Tuesday, May 8th. Routine business was transacted. The society voted to send \$10 to the San Francisco Medical Society for the relief of its members. Those present at the meeting were: Dr. H. A. Pawling and Dr. LeRoy W. King, of Lowville; Dr. F. D. Bigarel, Port Leydon; Dr. F. E. Jones, Beaver Falls; Dr. Paul H. von Zierolshofen, Dr. Ira D. Spencer, and Dr. Laurentine Rochelle, Croghan.

The Gouverneur Hospital Alumni Society.—The following programme was arranged for a meeting, held at the New York Academy of Medicine, on Tuesday evening, May 15th: The Health Department and Its Work in the Public Schools, by Dr. D. H. Jones; Symposium of Clinical Cases Treated at Gouverneur Hospital Dispensary: (a) Stomach Cases, by Dr. F. G. Goodridge; (b) Throat Cases, by Dr. W. H. Steers; (c) Skin Cases, by Dr. Abrams; (d) Gynecological Cases, by Dr. M. Rabinovitz; (e) The Diagnosis of Glanders in the Human Subject, by Dr. A. R. Braunlich; Report of Cases, by Dr. Seymour Oppenheimer: (a) Fibromyomata of Nasopharynx; (b) Mastoiditis (Dezolds); (c) Mastoiditis with Temporosphenoïdal Abscess.

Civil Service Examinations for the State and County Service.—The State Civil Service Commission announces examinations to be held May 26, 1906, for the following positions: Assistant Civil Engineer, \$5 to \$6 a day; Matron, Albany County Institutions, \$300 and maintenance; Milk Expert, Department of Agriculture, \$800 to \$1,100; Trained Nurse, State Institutions, \$420 to \$600 and maintenance. The last day for filing applications for this examination is May 21st. Applications will be received until June 1st, for Assistants in Bacteriology, in Botany, in Entomology, and in Horticulture at \$720 a year in the Geneva Agricultural Experiment Station. Application forms and detailed information may be obtained by addressing Charles S. Fowler, Chief Examiner of the Commission at Albany.

The Medical Society of the County of Steuben, N. Y., held its eighty-ninth annual meeting at Bath, on Tuesday, May 8th. The programme prepared for the occasion included the following papers: An address by the president of the society, Dr. Frank H. Starr, of Corning, upon the subject *Entering Into the Labor of Others*; an address by Dr. W. B. Jones, of Rochester, subject, *Cancer*; Report of a Case of Chronic Articular Rheumatism Treated with Formic Acid, by Dr. Clayton K. Haskell, of the Soldiers' Home Hospital; The Finsen X Ray in the Treatment of Diseases, by Dr. Frank W. Ross, of Elmira; Steuben's Hills and Climate for the Treatment of Diseases, Dr. John A. Conway, of Rexville; A Memorial Upon the Life of Dr. R. F. Parkhill of Howard, Dr. L. M. Kysor, of Hornellsville; Memorial to Dr. S. M. Switzer, of Bradford, Dr. H. S. Gillette, of Savona; A Memorial Upon the Life of Dr. Ira P. Smith, of Bath. Dr. H. R. Ainsworth, of Addison. Officers were elected for the coming year as follows: President, Dr. Charles O. Green, of Hornellsville; vice-president, Dr. H. B. Smith, of Corning; secretary and treasurer, Dr. W. W. Smith, of Avoca.

The New York Academy of Medicine.—A meeting will be held on Thursday, May 24th, under the auspices of the *Section in Pediatrics*. Following is the order: Paper: The Health of the New York School Child, From the Point of View of the Department of Health, by Dr. J. J. Cronin, Assistant Chief Sanitary Inspector; Paper: The Department of Education, by Dr. Luther H. Gulick, Director of Physical Training, New York Public Schools; Paper: The Private Practitioner, by Dr. R. G. Freeman; discussion by Dr. A. Jacobi, Dr. Darlington, commissioner of health, Dr. William H. Maxwell, superintendent of public schools, Dr. L. E. Holt, Dr. W. P. Northrup, and Dr. Henry D. Chapin. The *Section in Ophthalmology* will hold a clinical meeting on Monday, May 21st, with the following order: An Unusual Sequel of Powder Burn, by Dr. Carl Koller; Case of

Philadelphia County Medical Society.—At the meeting of the Philadelphia County Medical Society, held May 9th, Dr. Charles P. Noble read a paper on Fibromyomata of the Uterus, a Study of 100 Consecutive Cases Treated by Hysterectomy. The discussion was participated in by Dr. J. W. L. Egle, of Washington, Dr. J. E. Montgomery, Dr. Guy L. Hunner, of Baltimore, Dr. John G. Clark, Dr. Ellice McDonald, of New York, Dr. John B. Deaver, Dr. Ella B. Everitt, Dr. J. M. Baldy, Dr. Caroline M. Purnell, and Dr. George Eretz Shoemaker. Papers were also read by Dr. H. M. Christian, on Hematuria of Renal Origin, and

by Dr. M. Howard Fussell on The Value of Routine Examination of the Urine; a Statistical Inquiry.

Charitable Bequests. By the will of Rebecca White \$5,000 is bequeathed to the Woman's Medical College of Pennsylvania, the income of which is to be used "for the gratuitous training and education of worthy, well selected students who are in need, especially for those who feel called to Christian missionary service." Four thousand dollars in bonds are bequeathed to the West Philadelphia Hospital for Women, and \$6,000 to the Society for the Employment and Instruction of the Poor in the Moyamensing Home of Industry.

By the will of George Kessler the Methodist Home for the Aged receives \$3,000 and the Penn Widows' Asylum in Kensington receives \$2,000.

Pennsylvania Hospital.—The managers of the Pennsylvania Hospital are considering the advisability of erecting a house for convalescent patients on its property at Newtown Square, about fifteen miles from Philadelphia. The contributors to the hospital are to be asked to provide a building for the treatment of contagious diseases. During the past year 46,379 patients were treated in the hospital and the dispensaries. The following were chosen managers for the ensuing year: Benjamin H. Shoemaker, T. Wistar Brown, Charles Hartshorne, James T. Shinn, John B. Garrett, John W. Biddle, John T. Lewis, Jr., John S. Jenks, Archibald R. Montgomery, Henry H. Collins, Joseph B. Townsend, Jr., Francis R. Cope, Jr.

The College of Physicians of Philadelphia.—The regular monthly meeting of the College of Physicians was held on Wednesday evening, May 2nd. Dr. Herbert M. Nash, of Norfolk, Va., read a paper entitled *Reminiscences of Surgeons of the Confederacy*. A paper on the same topic, by Dr. William H. Taylor, of Richmond, Va., which was to have been read by Dr. George Ben Johnston, was read by title, on account of the unavoidable absence of Dr. Johnston. The librarian reported sixty-one additions to the library during April. The curator of the Mutter Museum reported the addition of one specimen to the museum. Sir Thomas Myles, of Dublin, Ireland, was elected to associate fellowship. At the close of the meeting a light supper was served at the University Club, 1510 Walnut street. At a special meeting, held on Friday, May 4th, the college voted to make use of the lot on Twenty-second street for the college building.

Presbyterian Hospital (Philadelphia) Training School.—The fifteenth graduating exercises of the Training School for Nurses of the Presbyterian Hospital, in Philadelphia, were held in the Tabernacle Presbyterian Church on the evening of May 1st. Dr. John Howard Jopson delivered the address and the vice-president, Mr. Charles H. Matthews, presented the diplomas. After the formal exercises in the church a reception was held in the Nurses' Home. The following young women completed the course of training: Margaret R. Anderson, Katharine Buck, Bertha Cline, Elsie B. Cooch, India V. Edwards, Bessie M. Ferris, Katherine B. Field, Phyllis E. Garverich, A. Maude Jickling, Florence H. Jones, Kate Liddle, Helen M. Logan, Margaret M. Oxtoby, Mary R. Prosser, Catharine M. Shertz, Blanche L. Snyder, Clara A. Sperling, J. Isabella Stambaugh, Jessie Morgan Stiles, Amy Davis Swift, Edna M. Wallace.

The Health of Philadelphia.—During the week ending May 5, 1906, the following cases of transmissible diseases were reported to the Bureau of Health:

| | Cases. | Deaths. |
|--------------------------------|--------|---------|
| Malarial fever..... | 4 | 0 |
| Typhoid fever..... | 243 | 14 |
| Scarlet fever..... | 39 | 2 |
| Smallpox..... | 1 | 0 |
| Chickenpox..... | 18 | 0 |
| Diphtheria..... | 81 | 10 |
| Cerebrospinal meningitis..... | 4 | 2 |
| Measles..... | 390 | 6 |
| Whooping cough..... | 47 | 7 |
| Tuberculosis of the lungs..... | 132 | 70 |
| Pneumonia..... | 109 | 59 |
| Erysipelas..... | 22 | 2 |
| Puerperal fever..... | 5 | 3 |
| German measles..... | 12 | 0 |
| Trachoma..... | 2 | 0 |
| Mumps..... | 22 | 0 |
| Cancer..... | 27 | 22 |

The following deaths were reported from other transmissible diseases: Septicæmia, 1; hydrophobia, 1; tuberculosis, other than tuberculosis of the lungs, 8; diarrhœa

and enteritis, under two years of age, 13. The total deaths numbered 502, in an estimated population of 1,469,126, corresponding to an annual death rate of 17.77 in 1,000 population. The total infant mortality was 113, under one year of age, 82; between one and two years of age, 31. There were 28 still births, 17 males and 11 females. No unusual meteorological phenomena were reported by the weather bureau.

BOSTON AND NEW ENGLAND.

The Chair of Physiology of Harvard Medical School will be vacant at the end of the present academic year when the resignation of Dr. Henry P. Bowditch, George Higginson professor of physiology, will take effect. Dr. Bowditch has been connected with the faculty of the school for more than thirty years. For ten years (1883-1893) he was dean of the faculty.

The New England Association of Jefferson Medical College Graduates.—Graduates of the Jefferson Medical College of Philadelphia, at a recent meeting, held at Dr. E. Winfield Egan's residence on Marlboro Street, Boston, organized an association to be known by the above given title. During the convention of the American Medical Association this new organization will have headquarters at Hotel Oxford, near Copley Square. A committee will be in charge and Jefferson College graduates are requested to register at headquarters upon arrival in the city. Officers for the new association were elected as follows: Dr. E. L. Parks, of Boston, president; Dr. J. Q. Adams McColester, of Waltham, vice-president; and Dr. E. Winfield Egan, of Boston, secretary.

The Mortality of Boston.—The number of deaths reported to the Board of Health for the week ending May 5th was 226, as against 233 the corresponding week last year, showing a decrease of 7 deaths, and making the death rate for the week 19.80. The number of cases and deaths from infectious diseases was as follows: Diphtheria, 36 cases, 2 deaths; scarlatina, 42 cases, 1 death; typhoid fever, 9 cases, 2 deaths; measles, 86 cases, 6 deaths; tuberculosis, 43 cases, 14 deaths; smallpox, 1 case, no deaths. The deaths from pneumonia were 38, whooping cough 1, heart disease 24, bronchitis 5, marasmus 7. There were 8 deaths from violent causes. The number of children who died under one year of age was 43, under five years of age 62, persons over sixty years of age 46, deaths in public institutions 66.

The Essex South District (Mass.) Medical Society.—The annual meeting of this society was held at Salem, on the evening of Tuesday, May 8th, Dr. Frank S. Atwood presiding, in the absence of the president of the society. Officers for the ensuing year were elected as follows: President Dr. H. W. Mitchell, Hathorne; vice-president, Dr. P. C. Procter, Gloucester; secretary, Dr. G. K. Blair, Salem; treasurer, Dr. G. Z. Goodell, Salem; librarian, Dr. Alice M. Patterson, Peabody; councillors, Dr. G. G. Bailey, Ipswich; Dr. C. H. Bangs, Lynn; Dr. S. P. F. Cooke, Gloucester; Dr. Thomas Dwight, Nahant; Dr. W. W. Eaton, Danvers; Dr. G. H. Gray, Lynn; H. J. Hall, Marblehead; Dr. T. Kittredge, Salem; Dr. W. B. Little, Lynn; Dr. H. E. Sears, Beverly; Dr. J. Shanahan, Peabody; Dr. J. A. Shatswell, Beverly; Dr. F. E. Stone, Lynn; Dr. B. R. Symonds, Salem; and Dr. A. M. Tupper, Rockport.

A Memorial to the Late Dr. James B. Chadwick, of Boston.—The special committee of the Boston Medical Library, appointed to consider what form a suitable memorial to the late Dr. James Read Chadwick should take, has recommended that the periodical room of the library be called the Chadwick periodical room, and that a bust or portrait of him with a suitable tablet be placed therein. It is further recommended that a fund to be known as the Chadwick book fund be raised to provide for the purchase of periodicals, completion of files, and the binding of periodicals, a department in which the library always has been lacking in means, and that a suitable book plate be placed in every bound volume. It is also recommended that a memorial window be placed in the Holmes hall reading room, provided that the members shall approve of a design presented and now on exhibition in the hall. The members of the committee having this matter in hand and to whom contributions from the friends of Dr. Chadwick may be sent, are Dr. Clarence J. Blake, treasurer; Dr. James G. Mumford, Dr. Walter L. Burrage, Dr. Charles M. Green, and Dr. Ernest B. Young.

Pith of Current Literature.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

May 10, 1906.

1. 1806-1906. The Boston Medical Association.
By DAVID W. CHEEVER.
2. The Past of the Boston Medical Association. Changes in the Fee Table.
By JAMES C. WHITE.
3. A Biographical Clinic of Tchaikovsky (*To be continued*).
By GEORGE M. GOULD.
4. The Treatment of Ununited Fractures of the Neck of the Femur by Operation, with Report of a Case.
By FARRAR COBB.
5. A Dietetic Study.
By A. L. BENEDICT.

1, 2. **The Boston Medical Association.**—There are two papers, one by Cheever and the other by White. We see from these that in 1806 Boston had thirty thousand inhabitants, and thirty-nine registered physicians. Twenty-six were fellows of the Massachusetts Medical Society, founded in 1781, while thirty belonged to the Boston Medical Association. Now Boston has six hundred thousand inhabitants, six hundred and nine physicians, and two hundred and fifty-two are members of the Boston Medical Association. In 1806 the war was over; the States had united; the currency had improved; Boston had considerable wealth, and the style of living had grown less narrow and more liberal. Republican license was displacing Puritanism. It was to meet these conditions, and to adjust the fees of the doctor, that the Boston Medical Association was formed in 1806. It will be of interest to look at the fee table as given by Dr. Cheever: The charge for a visit was, in 1788, sixty-seven cents (four shillings); 1798, one dollar; 1808, one dollar and a half; in 1851, two dollars; in 1864, three dollars; in 1905, three to five dollars.

4. **The Treatment of Ununited Fractures of the Neck of the Femur by Operation, with Report of a Case.**—Cobb draws the following conclusions in regard to this form of fracture and its treatment: Fractures entirely intracapsular are very rare. When they do occur and are unimpacted, the obtaining of union by any form of fixation apparatus is exceedingly doubtful. The operation of nailing the fracture with or without open incision is to be adopted whenever possible. In the young and middle aged, when no contraindications to operation are present, such as obesity, general debility, marked arteriosclerosis, or complicating disease, the method with open incision is more accurate and preferable. In persons of advanced age and those with definite contraindications to surgical interference, the direct method without incision, as practised by Nicolaysen, should be used in cases if seen sufficiently early. Nicolaysen, of Norway, uses the following method under general anæsthetic: After a thorough cleaning of the trochanteric region of the injured side, the patient is placed on the uninjured hip and a competent assistant, by manipulation and traction, draws the trochanter down into place. The operator directs this procedure until Burow's angle has been enlarged to a right angle. This Burow's angle is an angle formed at the top of the trochanter by a line from the anterior superior spine of the ilium and a line from the middle of the crest of ilium. With the trochanter in normal position, this angle should be a right angle. When this position of the trochanter by extension and abduction has been secured, a pointed steel wire nail, about fifteen centimetres in length, starting from four and a half to five centimetres below the top of the trochanter, is hammered through the neck and through the head of the femur into the acetabulum. There has never been any difficulty in pounding the nail in; a characteristic sound is elicited when the nail reaches the acetabulum. The end of the wire nail is covered with antiseptic gauze, and a plaster of Paris spica bandage is

applied from the toes to above the crest of the ilium. After three or four weeks a hole is cut in the plaster bandages over the wire nail and the nail is removed. The nail is usually found loose at this time. The plaster bandage is removed at the end of eight or ten weeks, but the patient is allowed to be up on crutches for some time previous.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

May 12, 1906.

1. Phagocytosis and Opsonins.
By LUDWIG HEKTOEN.
2. Malaria in the Tropics.
By WILLIAM C. GORGAS.
3. A Comparison of the Pharmacological Activity of the Fluid Extract of Squill Prepared According to the United States Pharmacopœia 1890 and 1900.
By E. M. HOUGHTON.
4. A Case of Hemorrhage from the Stomach. Due to Cirrhosis of the Liver, in which Gastroenterostomy was Done on the Supposition That There Was Gastric or Duodenal Ulcer.
By WILLIAM J. TAYLOR.
5. The Ultimate Results of Kidney Fixation.
By J. H. CARSTENS.
6. Cæsarean Section in the Treatment of Placenta Prævia.
By W. A. BRIGGS.
7. Mortality After Prostatectomy.
By BENJAMIN TENNEY.
8. The Economic Production and Distribution of Clean Milk.
By JOSEPH ROBY.
9. Treatment of the Bites of Copperhead Snakes by Local Freezing Combined with the Frequent Application of a Potassium Permanganate Solution.
By C. W. R. CRUM.
10. Remarks on Sahli's Desmoid Test of the Stomach.
By MAX EINHORN.
11. Sanatoria and Tent Colonies. Do They Cure and Prevent Tuberculosis?
By DANIEL LICHTZ.

1. **Phagocytosis and Opsonins.**—Hektoen says that at present we may accept as an established fact that phagocytosis of many bacterial and other cells by the leucocytes, in the first instance, is dependent on special substances, normal and immune, which become attached to the cells in question and in some manner so change them that they are taken up readily by polynuclear leucocytes in vitro. Wright and Douglas have shown the presence in blood and other fluids of such certain substances which they called opsonins. By means of experiments giving comparable results, it has been found that the variable factor is the serum and not the leucocytes. The sera of the higher animals normally contain opsonin for many different bacteria. Thus, normal human serum contains opsonin for staphylococci, streptococci, pneumococci, meningococci, gonococci, influenza bacilli, diphtheria bacilli, anthrax bacilli, tubercle bacilli, typhoid and colon bacilli, the common bacillus, the pest bacillus, and probably many other pathogenic and non-pathogenic bacteria. Whether this wide range of opsonic action is dependent wholly on a common opsonin or on several more or less specific opsonins has not been determined. It was later shown that the blood of certain animals immunized with blood containing a substance that by acting on blood corpuscles renders them subject to phagocytosis by leucocytes. Immune opsonins may be regarded as acting primarily on the bodies against which the animals have been immunized. Phagocytosis is essentially amœboid motion, enclosing or partly enclosing the object within the phagocyte. The action of the opsonins may be defined to consist in so changing bacteria and other cells that these by chemical, electrical, or mechanical means diminish the surface tension of leucocytes, and thus bring about phagocytosis. Again, there also takes place under certain circumstances the production of specific antiopsonins, which may diminish or inhibit normal phagocytosis. The important question is the value of the opsonic index in the successful treatment of infections by means

1. *The History of Anti-Slavery in*
 the United States BY LEWIS FOX FETTER
 2. *Compulsory Apprenticeship* BY ALLEN STARR
 3. *The Slave and International Law*
 BY MERVIN P. BURNHAM.

4. Atrophic Cirrhosis of the Liver, with Report of Two Cases, By W. L. WASSON.
5. Concerning the Diagnosis. By JOSEPH N. STODY.

1. **The Ætiology of Acute Rheumatism.**—Frissell states that as a result of a careful clinical analysis of the pathology and symptomatology of rheumatism, one is forced to look beyond the common joint affection to gain a clear idea of such a protean disease attacking, to be sure, oftenest the joints, but too frequently skin, pleura, and heart. Granted a point of entry, probably the tonsil, as the frequency of tonsillitis in rheumatism would suggest, the various conditions vaguely called rheumatic, as well as the out and out attack of acute articular rheumatism, seem best explained by considering the essential condition to be a blood infection. Assuming this hæmatogenous origin, the localization of the symptoms is readily accounted for by the bacterial embolus, or local toxine, action. Assuming this latter view to be correct and that rheumatism is a bacterial disease, the nature of the organism at fault still remains for discussion. Evidently there are five possibilities: (1) An infection caused by the ordinary streptococci or staphylococci with their virulence in some way decreased—a view held by Menzer, Singer, von Leyden, Sahli, and others. (2) Infection by a specific bacillus—Achalme, Thiruloix. (3) A mixed infection with bacilli and cocci. (4) An infection with a specific coccus—Poynton and Payne, Beaton and Walker, Wassermann, Meyer, Lewis, and Longcope. (5) An infection caused by one of a group of closely allied organisms probably diplococci or streptococci, which cause various grades of arthritic trouble. The most common causing those clinical symptoms which we know as articular rheumatism and tending to spontaneous cure; the more malignant causing a septic arthritis, while between are many intermediate grades causing as many varieties of infection. The main objection to the first of these views is the extreme rarity of pus formation in rheumatism. The second of these theories seems controverted by the rarity of the findings, which should be constant in the case of a bacillus so striking in appearance and so easy to grow. The third theory advanced by several followers of Achalme may be dismissed for the same reasons. In favor of the fourth theory is the uniformity of the findings at the hands of a considerable number of observers; but above all is the success of their animal experimentation and the regularity with which by injection of their organisms a polyarthritis is produced. Opposed to it is the failure in competent hands to duplicate their findings. The fifth theory perhaps reconciles the views held by those who believe in the specific coccus with that of those who believe the attenuated pus coccus the causal agent.

2. **Cerebellar Apoplexy.**—Starr calls the attention to the existence of cerebellar apoplexy which, he thinks, is undoubtedly a somewhat rare affection. He cites five cases and states the common symptoms as vertigo, of an extreme degree at the onset, subsiding to some extent gradually, but recurring on any attempt to walk, and remaining as a permanent symptom; an uncertainty in gait due, not to paralysis, but to a lack of balancing power, which results in staggering and uneven steps; an unnatural posture of the head when at rest, and nystagmus. These symptoms when in combination are characteristic of cerebellar disease. The treatment is similar to the treatment of cerebral apoplexy. The patient should be kept quiet and not allowed to get up under three weeks from the attack. Arterial conditions must be attended to and all effort be avoided. There is no need for special attention to the stomach, for the vomiting is not due to any stomach disturbance, nor as a rule are laxatives required. Bromide or antipyrin may quiet the symptoms of vertigo if this persists. But as the symptom of staggering is due to the lesion

it cannot be reached by treatment any more than can a hemiplegia or hemianopsia in cerebral apoplexy.

4. **Atrophic Cirrhosis of the Liver.**—Wasson says that the pathological changes may be summarized as an increase of connective tissue, atrophy of the liver cells, increased number of bile radicles, and obstructed portal system. The symptoms during the early stage are usually slight and point rather toward dyspepsia than anything more serious. Later, when the portal system becomes compressed, there ensues the onset of a graver condition. Nausea and vomiting are present. The bowels are irregular in action, sometimes constipated, sometimes loose, and a yellowing of the conjunctiva may be noticeable. Later the abdominal subcutaneous veins are dilated, forming about the umbilicus the characteristic caput Medusæ. The urine is scanty, of high gravity, its urea is reduced and uric acid is increased. Jaundice is not a marked feature and fever is usually absent, while respiration may be embarrassed by pressure from the distended abdomen or from pleuritic effusion. The general nutrition suffers greatly and the heart action is often weak. After a course of one or more years death is the usual termination, although in some instances recovery has been reported. Alcohol should be interdicted, as well as rich and highly seasoned foods. Milk, if possible, should be the main article of food; soups and a small amount of farinaceous foods may be added. Gastrointestinal catarrh should receive attention, the bowels kept regular, and an attempt made to control the ascites by cartharsis and diuresis in cases in which these measures are not contraindicated. Tapping to relieve ascites is more efficacious, and should be done under strict antiseptic precautions. Hepatic extract has been given with apparent profit.

BRITISH MEDICAL JOURNAL.

April 28, 1906.

1. Extroversion of the Bladder, with Special Reference to Extraperitoneal Transplantation of the Ureters Into the Rectum, By A. L. LONDON.
2. Extroversion of the Bladder: Its Treatment by Extraperitoneal Transplantation of the Ureters Into the Rectum, By H. S. NEWLAND.
3. Bradycardia with Arrhythmia and Epileptiform Seizures, By J. M. FINNY.
4. Rickets in Relation to Duration of Lactation, By A. DINGWALL-FORDYCE.
5. Pleuritic Effusion Treated with Adrenalin by the Preliminary Intraserous Injection Method, By W. EWART and F. MURRAY.
6. The Treatment of Branchial Fistula, By M. J. CHEVERS.
7. The Incubation Period of Malta Fever, By E. H. ROSS.
8. Mediterranean Fever in South Africa. Isolation of the *Micrococcus Melitensis*, By C. BURT.

1, 2. **Extroversion of the Bladder.**—London reports a case of extroversion of the bladder, occurring in a boy aged ten years, in which all kinds of plastic operations had been previously performed. Finally, it was decided to connect the ureters by extraperitoneal transplantation with the rectum. The artificial front wall of the bladder was completely divided and the trigone exposed. The orifice of each ureter, although buried in the hypertrophied mucous membrane, was localized by observing the intermittent spouts of urine, and a director was passed down each ureter to serve as a guide. A button or rosette of mucous membrane (so as to preserve any sphincteric action that opening might possess) was cut around the ureteral orifice. By means of the director, the termination of the ureter was easily defined in the thickness of the bladder wall, and followed into the subperitoneal tissue, where it was stripped up with ease. A finger was inserted into the rectum along which a pair of Lister's forceps was passed and thrust through the wall of the rectum; its blades were opened widely enough to seize the end of

the patient, which was almost impossible until the rectum had been freed by a previous colostomy. The freedom of bowel function usually follows the cure. There may then be little or no gas, the patient may lose weight, and he may be free of the tumor. The result of the operation, however, may be serious. It has been stated that the patient immediately leaving the hospital seldom survives. A second attempt was made to remove the free rectum from the tumor, but proved a failure. Macle's question was thus answered, and the tumor implanted from the sigmoid anastomosis. I saw the patient seven years ago, when about his fourth day had a little of constipation, but he was doing the rest without emptying the rectum, attending school, and working beyond question. The physician was so able to remove the presence of some anomaly. Several reports of a case of extroversion of the rectum in which recto-critoneal implantation of the rectum (recto-critoneal) was successfully performed by Lendon's method. He has collected eight cases operating upon the rectum method, resulting in a mortality of twenty-five per cent. From the patient's point of view the arguments in favor of Lendon's operation are: 1. Complete control over the evacuation of the rectum is obtained. 2. An irritable and tender mucous membrane is removed. 3. The odor of ammoniacal decomposition of other fecal material.

Bradycardia. These reports are due to brady-
cardia, which, and, as a result of the latter,
may be accompanied by varying severity in one of which
the more prolonged cessation of the cerebral anæ-
mia, more than causes the attacks, which caused the syn-
drome and convulsive attacks. That cerebral anæmia is
a common phenomenon is well known and daily verified.
It is not bradycardia, but arrhythmia and not simply the
bradycardia, which is the factor in the production of

mine the relation of the incidence of rickets to the varying conditions under which the function of lactation is exercised and to the duration of the exercise of this function. He studied two hundred children, divided as follows according to their early feeding: (a) Breast feeding; reared wholly on the breast for over twelve months. (b) Hyperlactation; reared wholly or mainly on the breast for over twelve months. (c) Mixed feeding; partly on the bottle, and partly on the breast. (d) Bottle feeding; entirely on the bottle. He found that rickets was more prevalent among bottle-fed children than among breast-fed children, and that the incidence of rickets was greater among bottle-fed children than among breast-fed children for over eight months (including those with hyperlactation) than among other children, and as these breast-fed children were, in a large majority of cases, born of mothers who had undergone greater lactational strain, and as this lactational strain does only to a slight extent to increase the resistance to rickets, consequently one may conclude that the composition and fitness of the

BRONCHIAL FISTULA—A patient from the origin of the bronchial fistula successfully treated by the constant use of the catheter. The catheter was introduced from the origin of the fistula into the alveole, at which point it was secured by a suture. It was then moved up or about the level of the upper lobe of the lung. There was no cough, no expectoration, and no difficulty in breathing. The patient was discharged in good health.

3. **Mediterranean Fever.**—This is not a case of Mediterranean fever, in which the incubation period

of the disease could be fixed as between two and nine days. But the results of the serum test has demonstrated that Mediterranean fever occurs in South Africa.

LANCET

1700 25 100

1. The Bearing of Metabolism Experiments Upon the Treatment of Some Diseases. *Address: Stanley Lee.* By I. I. SPRINGS.
2. A Paper on Recent Advances in the Supply of the Heart. By W. A. POWER.
3. A Paper on Human Stomach and Their Working in War and Peace. By P. B. HANDSIEDE.
4. Researches on Leprosy in Cape Colony. By R. S. BLACK.
5. A Paper on Malaria Metamorphosis. September. By I. W. ANDERWES.
6. Metabolism of the Cancer, treated by Radiation and Application with Remarks Upon the Operation of Affected Tissues. By K. C. E. MANNING.

I. Metabolism Experiments and Disease. Spriggs examines the results of metabolism experiments with reference to the treatment of disease. After some preliminary considerations as to the conservation of energy, and the uses to which the various food stuffs are put, he states that two ounces of proteid, or nine ounces of meat, is a sufficient proportion for an ordinary diet in health. Fat and carbohydrate are used to supply energy for all the bodily activities; of the two carbohydrate is the more necessary. Almost eight per cent. less energy is given off when a person is in bed than when he is up and about the room without doing any serious work. When digestive activity is absent, as in fasting with complete rest, the energy used by the body is at its lowest. The internal work of the body can be lessened by limiting the digestive work caused by allowing too much proteid. Exercise increases the metabolism of the body very greatly, but not that of the proteid tissues, unless it be excessive. Of course if carbohydrate or fat is not available, then proteid is used. Observations upon fasting men show that in such conditions careful attention must be paid to the following points: 1. The weight; the loss should not be more than one or one and a half per cent. of the total per day. It is said that a man cannot survive a loss of more than one third of the total weight in acute hunger. 2. A fall of temperature below the normal limits is of sinister significance. This sign is well known in cases of pathological starvation—*e. g.*, œsophageal stricture. 3. A rise of temperature above the normal contraindicates fasting for more than a short time. Fever lessens considerably the power of resistance to inanition. Nitrogen breakdown is never so little as in fasting without fever. 4. Sufficient fluid must be supplied. The body can only survive the deprivation of water for a short time. The fluid is usually given in an isotonic solution, such as normal saline, by the rectum. The quantity of urine should be watched if it falls below the average and becomes concentrated, and the patient feels thirsty, more fluid is called for. Less water is necessary than when food is taken. With partial feeding the period of resistance is much longer; the body may survive the loss of a much greater proportion of its weight than in complete hunger. The body has been known to be reduced in weight one half. Patients receiving nutrient enemata are in a condition of partial starvation. Sugar is well taken up by the rectum, its absorption being helped by one per cent. saline solution. The rectum must always be washed out daily, and it is very important that sufficient fluid be given. Enemata of ten to fifteen ounces can be retained if slowly given, and have the great advantage of needing less frequent administration. Under normal conditions any excess of food is stored away as energy in the form of fat. But after fasting proteid is laid on rather than fat. After fevers the same is true.

2. Surgery of the Bloodvessels.—Power discusses the progress that has been made in the surgery of the bloodvessels. It is now known that surgical shock is an exhaustion of the vasomotor centre; neither the heart muscle, nor the cardiac centres, nor the respiratory centre, are other than secondarily involved. Collapse is due to a suspension of the function of the cardiac, or of the vasomotor mechanism, or to hæmorrhage. In shock therapeutical doses of strychnine are inert; physiological doses are dangerous or fatal. Cardiac stimulants have only a limited use in shock, while in collapse they may be useful because the centres are not exhausted. The same is true of saline infusions. Adrenalin acts both upon the heart and bloodvessels; it raises the blood pressure in every degree of shock, but it is so quickly oxidized by the body tissues and by the blood that its effects are very temporary. It must therefore be given continuously, and in excessive doses it stimulates the cardioinhibitory mechanism. A pneumatic rubber suit provides an artificial peripheral resistance, and is a useful adjuvant to adrenalin. Various forms of treatment of aneurysm have been introduced, based on Nature's methods of cure. Foremost among these are the administration of gelatin or calcium chloride to increase the coagulability of the blood generally; acupuncture, electrolysis, or wiring to promote coagulation locally. These methods have been tried chiefly in cases of intraabdominal and intrathoracic aneurysm which are surgically inaccessible to the more simple plan of ligature.

5. Meningococcal Septicæmia.—Andrewes reports a case of fulminant purpura due to general meningococcal infection. Examination of blood smears shortly before death showed a trivial leucocytosis, and the presence of large cocci which were exclusively intracellular, being enclosed in pairs or groups of not more than half a dozen in the polynuclear leucocytes. No single free coccus was seen in the blood. They were not suspected to be meningococci until proved so by culture. At the autopsy extensive hæmorrhages were found throughout the body, but there was no evidence of meningitis either microscopically or macroscopically. The patient died of an acute hæmorrhagic septicæmia without meningitis.

6. Cæcal Volvulus and Appendicostomy.—Mannsell reports a case of volvulus of the cæcum, occurring in a married woman, aged seventy-seven years; the abdomen was opened, the volvulus reduced, and appendicostomy performed in order to fix and drain the cæcum. Recovery was uneventful. The small opening was closed by excising the mucous lining of the appendiceal stump, the muscular tube healing soundly in a few days. The indications for appendicostomy are as follows: 1. Mucous colitis. 2. Dysentery. 3. Chronic ulceration of the colon. 4. Chronic constipation. 5. To fix and drain an ileocæcal intussusception. 6. To drain and prevent distention subsequent to operations for intestinal obstruction or when intestinal resection has been performed. 7. As a method of applying local treatment in complicated typhoid fever. 8. As an improvement upon rectal feeding. 9. As a substitute for gastrostomy or jejunostomy in very weak and emaciated patients.

LYON MEDICAL.

April 22, 1906.

1. A Case of Puerperal Infection which Followed a Slow Course and was Treated by Abdominal Hysterectomy, By ALBERTIN and JAMBON.
2. Constipation in Neurasthenia and Psychoneurosis, By JOSEPH DREYFUS.

1. Puerperal Infection Which Followed a Slow Course and Was Treated by Abdominal Hysterectomy.—Albertin and Jambon report a case of the nature indicated by the title of the paper. They claim that the mucous membrane was not the principal seat of the

infection, and that therefore the therapeutical means addressed to the mucous membrane, the disinfection, and the curettage of the uterus, were useless. The inflammation seemed to have propagated itself from the side of the pelvic peritonæum rather than along the usual way.

2. Constipation in Neurasthenia and Psychoneurosis.—Dreyfus reports five cases.

PRESSE MEDICALE

April 21, 1906.

1. Syphilitic Aortitis, By Professor DIEULAFOY.
2. Simulated Paralysis of the Shoulder and the Law in Regard to the Accidents of Travel, By E. BRISAUD and F. MOUTIER.
3. Organic Camptodactylia Stigmata Characteristic of Neuroarthritis, By Professor L. LANDOUZY.
4. The Technics of Nephropexy, By J. ALBARRAN.
5. Primary Cancer of the Ampulla of Vater, By MAURICE LETULLE.
6. Leucoplasia of the Vulva, Vagina, and Uterus, By F. JAYLE and X. BENDER.

1. Syphilitic Aortitis.—Dieulafoy reports a case of aortic insufficiency of syphilitic origin which was cured by several series of injections of biniodide of mercury given ten or twelve times at intervals of five days, followed by a month of rest.

2. Simulated Paralysis of the Shoulder.—Brissaud and Moutier present photographs which illustrate the differences which are visible between true and counterfeit functional impotence of the shoulder joint. The paralysis is an easy one to imitate, as it is sufficient to allow the shoulder to be absolutely passive, but when the paralysis is simulated the inclination of the body toward the paralyzed side is not present, the nipples are more nearly in the same horizontal line, and the shoulders are more nearly on the same level.

3. Organic Camptodactylia Stigmata Characteristic of Neuroarthritis.—Landouzy states that camptodactylia (from κάμπτω flexed or curved, and δάκτυλος finger) is more frequently met with in women than in men. It follows an insidious, slow, painless, and progressive course until one or more of the fingers, usually the little or the ring finger, are permanently and irreducibly flexed into the palm of the hand. As for treatment "de minimis curet medicus."

4. Nephropexy.—Albarran gives the technics of this operation in full detail. He mentions as four essentials that the kidneys and ureter should be examined, that the kidney should be placed in a good position, that it should be fastened well, and that the parenchyma of the kidney should be interfered with as little as possible.

5. Primary Cancer of the Ampulla of Vater.—Letulle considers that cancer of the ampulla of Vater deserves a consideration distinct from that given to cancers of the small intestine in general.

6. Leucoplasia of the Vulva, Vagina, and Uterus.—Jayle and Bender claim to have seen many cases of this nature, first described in 1875 by Dr. Robert F. Weir, and give a general description of the affection, as well as of its histological characteristics.

SEMAINE MEDICALE.

April 25, 1906.

Diagnosis of Uterine Rupture,

By Professor R. DE BOVIS.

Diagnosis of Uterine Rupture.—De Bovis describes the symptoms which accompany rupture of the uterus during parturition, and devotes considerable space to the reasons why hæmorrhage, external and internal, varies so much in different cases. He thinks the ante partum diagnosis is to be based on the characteristic cry which is uttered by the patient at the moment of rupture, the arrest of labor, the abnormal feeling of the uterus, sometimes on hæmorrhages, more often on the changes produced in the general condition, and

BERLINER KLINISCHE WOHENSCHRIFT

April 17, 1906.

1. Experimental Investigation of Cancer.—*From the Laboratory of the Imperial Cancer Research Institute, London.* By E. C. LUDLAM.
2. Ochronosis.—*Pathogenesis and Etiology of Cases of this Affection which Have Been Reported by Various Authors, and Analyzes the Conditions which were Determining.* By J. J. VAN DER WOUDE.
3. Transient Bilateral Amaurosis with Preservation of the Pupillary Reaction and Amnesic Aphasia After an Epileptic Fit.—*Schmidt reports the case of a woman, 40 years of age, who had suffered from amaurosis and aphasia after a fit, and who recovered after a fit, which occurred during the night. About a week later she had another fit, and this was followed by a return of vision and of the power of speech. Schmidt discusses the symptoms in detail, locates the seat of the trouble in the cortex of the occipital lobe and the posterior part of the first temporal convolution, and does not believe that the second fit had any causal relation to the return of sight and speech.*

4. Bottini's Operation.—Cohn points out certain dangers which accompany Bottini's operation for hypertrophied prostate. The bladder may be ruptured while undergoing distention, or the operation may be followed by an attack of fever due to an acute exacerbation of the cystitis, in consequence of which the wound may become infected and sepsis induced.

5. Hematuria.—*Van der Woude discusses hematuria as a very disquieting symptom, the cause of which is sometimes difficult to discover. It may occur suddenly, when it is usually due to an injury, and calls for surgical intervention, or it may develop slowly. In either case the duty of the physician is to determine its origin. The author deals first with injuries, and then passes to the diseases of the bladder and kidneys which often present the greatest diagnostic difficulties. Hemorrhage from the urethra, the bladder, the ureter, and the kidney are each considered in turn with the various causes which may produce each, including circulatory disturbances, inflammations, calculus disease, tumors, and syphilis.*

6. Peculiar Clinical Course and Pathological Condition in a Case of Chronic Tuberculosis of the Heart.—*Krauth gives a very complete history of a case in which there was found on autopsy a mass of tubercle granules at the base of the brain, beneath which the brain tissue was softened, and considerable pus in the left lateral ventricle. When the anterior wall of the chest was removed, to which the heart had grown adherent, pus escaped from the portion of the heart next the diaphragm. The abscess cavity was filled with cheesy masses and the cardiac muscle was permeated with pus. The apex of the right lung contained cheesy masses, the concave surface of the liver showed numerous tubercles, and the mesenteric glands had undergone cheesy degeneration.*

7. Conservative Myoma Operations.—Hengge makes a strong plea for the removal of myomata from the uterus with preservation of that organ when possible in those cases in which operative intervention is necessary.

8. Immunity.—Weichardt presents a fairly extensive review of the recent literature on this subject.

9. Abortion in Munich.—*Schmidt reports that in 1905 1,224 abortions, legal and illegal, were reported to the authorities of Munich. Of this*

number 253 men and 30 women were suffering from mental disturbances of purely alcoholic origin, giving the proportion of alcoholic psychoses as 30.3 per cent. for men and 40 per cent. for women. The writer then deals with the various forms in which the alcoholic disease made itself manifest.

10. Rigidity of the Iris in a Hysterical Attack.—*Mörchen reports a case in which a young man, eighteen years old, suffered from epileptiform attacks of hysteria during which his pupils were dilated and fixed. Between attacks the reactions of the pupils were normal.*

11. Experiments with Proponal.—Mörchen reports the results of proponal as a hypnotic on ten patients who were for the most part suffering from some form of dementia. The results he obtained were favorable.

12. Uræmic Neuritis.—Dunger reports a case in which a neuritis developed in the left brachial plexus during the course of a severe nephritis with uræmic symptoms.

13. Exhaustion Through Hyperfunction.—Lilienstein reports a case of lead paralysis in the ulnar region, a case of pure occupation neuritis of the ulnar, and a case of multiple professional paralysis in an arm which had been broken years before. In the latter case the patient had had syphilis, had signs of lead poisoning, and was suffering from tabes.

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Proceedings of Societies.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of March 1, 1906.

The President, Dr. WILMER KRUSEN, in the chair.
THE TREATMENT OF BACKWARD DISPLACEMENTS OF THE UTERUS.

The Alexander Operation.—Dr. CHARLES P. NOBLE remarked that the uncomplicated retrodisplacements of the uterus caused far fewer symptoms than the same displacements complicated by other morbid conditions, but rejected the contention that uncomplicated retrodisplacements gave rise to no symptoms and required no treatment. He agreed with the majority of gynecologists that retrodisplacement of the uterus was a morbid condition, and that in most patients who consulted the physician it was the cause of symptoms *per se* and a predisposing cause of congestion of the uterus, of hypertrophy of the glandular structure of the endometrium with resulting leucorrhœa, and of prolapse and congestion of the ovaries, and that in a certain

MÜNCHENER MEDIZINISCHE WOHENSCHRIFT

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percentage of cases, without any specific infection of the vagina or endometrium, the uterus and ovaries became adherent. These remarks applied to nonpuerperal cases. Uncomplicated retroversion in the puerperium led to subinvolution of the uterus and to postpuerperal hemorrhages and leucorrhœal discharges. Therefore, he argued, so called uncomplicated retrodisplacements of the uterus should be cured, not only to relieve the symptoms which existed, but to prevent ensuing complications. The Alexander operation he regarded as the operation of election in nulliparous patients, especially in unmarried women. In such patients the pessary would not keep the uterus in position, and in many cases did positive harm. In other cases it would keep the patient comfortable as long as it was worn, but as a result the patient was tied to the physician's office. In puerperal cases the tampon to promote involution, followed by the Smith-Hodge pessary, would cure probably one third of the cases. In married women of the child bearing age, when the pessary keeps the uterus in position and the patient comfortable, its use was rational and preferable to an operation. In all other uncomplicated cases the Alexander operation should be performed. He had done this operation about 200 times. A careful study of 95 cases showed the following results:

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|---|----|
| Anatomical failures | 1 |
| Anatomical cures | 94 |
| Symptomatic cures | 75 |
| Partial symptomatic cures | 12 |
| Symptomatic failures | 7 |
| Number of pregnancies (three patients pregnant three times; three patients pregnant twice)... | 39 |
| Complications during labor | 0 |
| Number of miscarriages (one patient had three miscarriages) | 9 |

In its proper field the Alexander operation was the ideal one. The objection urged that the limitations of diagnosis rendered it probable that it would be done in unsuitable cases could best be refuted by the statement that after thirteen years' experience with the operation in about 200 cases he had seen no trouble from this cause. The operation was never done in the presence of a history of infection and peritonitis, nor unless an examination under anæsthesia showed the uterus to be freely movable and the annexa without palpable disease. When these conditions were not met with, the Alexander operation was rejected and the abdomen opened.

Intraperitoneal Shortening of the Round Ligaments.

—Dr. J. M. BALDY thought that other surgical operations than the intraperitoneal shortening of the round ligaments for backward displacement of the uterus were inadequate. He did not believe that the round ligament was the natural support of the uterus or that it gave more than a slight assistance in this direction; nor did he believe that any one element brought about a uterine displacement. The one and only consequence of the displacement, and it must be admitted that it was a serious one, was the secondary effect on the prolapsed appendages. Any operation which did not need this factor and which did not as surely correct the prolapsus of the ovaries as it did that of the uterus could not be considered competent. Such was the case with the Alexander operation in all its varieties, as well as with the ventrofixation and suspension operations; and this criticism he regarded as applicable to the majority of intraperitoneal round ligament operations. The operation which he was in the habit of performing, and which was frequently designated by his name, produced its results through the use of the round ligaments. The broad ligaments were perforated from their posterior surface by forceps, which on emerging on the anterior surface were made to grasp the round

ligaments, and they were thus drawn through to the posterior surface with the forceps. The round ligaments were brought together and sutured both together and to the uterus low down on its posterior surface, at about the position of the internal os. This accomplished three things: 1, The tilting forward of the uterus to a normal anterior position. 2, The lifting up of the whole pelvic floor from its sagging position. 3, The uplifting and support of the ovaries and tubes. One who had not seen the result could have no conception of its completeness and was in no position to discuss its merits.

Ventrosuspension of the Uterus.—Dr. HENRY D.

BEYEA said that the anatomical ætiology of retrodisplacement of the uterus was resident in a great many supporting structures and conditions, and that no operation yet devised completely corrected the cause. No operation had accomplished much more than the pessary where this instrument succeeded. The operation selected to gain the desired result should be of the simplest technique, the least mutilating and dangerous; should not disturb function; should have the greatest freedom from recurrence and surgical complication; and must of necessity be performed through an abdominal incision. These elements of success, in his study of over 500 cases during the last thirteen years, had been most satisfactorily gained by a method of ventrosuspension. Reviewing the literature, he found that complications which were said to ensue, nearly all occurred after operations performed before 1896, when ventrofixation was performed, not ventrosuspension, and in about as many a true fixation operation was described. Literature showed no proof that ventrosuspension had caused complications. Dr. Beyea described forty-two cases of pregnancy and labor following the operation, and in no instance was there a complication attributable to the suspension. Also in none of the 500 cases of the operation did ileus or any other accident follow. Statistics showed that recurrence might take place in 6 per cent. of the cases; it had done so in 1 per cent. of his own cases. Recurrence was due in his experience to constant coughing during immediate convalescence in four cases. In one case where the retroversion was congenital the cause remained abnormally active and the ligament was stretched out until it measured four and a half inches. In the cases in which cough developed or retroversion was congenital he would also apply a pessary for a few weeks. He believed that recurrence would be less frequent if the operator would include a few fibres of the rectus muscle in the silk on each side of the incision. By this method he had found ventrosuspension to be one of the most satisfactory operations in surgery.

Shortening the Round Ligaments by Subperitoneal Ventroaponeurotic Fixation.—Dr. JOHN M. FISHER

stated that the title of his paper had reference to the operation of shortening the round ligaments as first practised by Gilliam, modified by Simpson, and finally perfected by Montgomery. The abdomen was opened, the round ligament of one side was picked up about an inch and a quarter from its uterine attachment, a traction strand of silk or catgut was passed beneath it, the two ends of which were threaded into the eye of a Deschamp ligature carrier, the latter was introduced through a buttonhole opening between the folds of the broad ligament following the course of the round ligament; upon reaching the abdominal wall the point of the carrier was thrust through the abdominal musculature and aponeurosis about three quarters of an inch above the margin of the pubic bone and about an inch and a half from the median line. The ends of the strand were released from the carrier and the latter was withdrawn. Traction upon the strand dragged the knuckle of the round ligament held by its loop through the opening thus made. The round ligament of the

remains in its normal position with its fundus raised. After making the necessary incisions in both ligaments for holding the uterus in a normal forward position, the peritoneal incision was extended to the abdominal cavity, and the uterus was raised into its normal position. The abdominal opening was closed by sutures with the care of the surgeon. The operative abdominal incision is supported by the use of special suture in a complete manner. The following advantages were alleged for the operation: 1. The uterus remains free from any undue tension, the normal position, normal position and function during the pregnancy. 2. The uterus and broad ligaments support the fetus in its normal position, which is in the light of the importance of the uterus, its contractility, and its normal position and function during pregnancy. 3. The uterus was left in the pelvis or abdomen as a direct result of the operation for the formation of preternatural bands and adhesions. 4. The uterine cavity was raised to a higher plane, a higher level, since January 11, 1904, Montgomery had performed the operation on 142 patients. The writer continued to practice ventrosuspension, and continued to be surprised at the new method after having assisted in the performance of the operation. The writer continued to practice ventrosuspension frequently to determine results. During the past eleven months he had practised the procedure in twenty-six cases without a death and with the most gratifying results. Pregnancy and labor following the operation had been observed in three patients without anything abnormal being noted.

Dr. WILLIAM EASTERLY ASHTON, from the standpoint of treatment, divided retrodisplacements into the recent and chronic cases. By recent cases he meant those which had not existed over a year. These he believed could at times be successfully treated by the pessary in association with local and general treatment. He recognized the necessity in both chronic and recent cases that the essential plastic work upon the pelvic organs and floor should be done. In the treatment of chronic retrodisplacements, in his judgment, the pessary had no place. Occasionally it might be possible to get a symptomatic cure with a pessary in the so called uncomplicated cases, but this method was of doubtful value because of the difficulty of knowing whether there were complications until the abdomen was opened. Although he had for a number of years been an advocate of ventrosuspension, during the last year he had been shortening the round ligaments. From his experience he believed that the operation on the round ligaments giving the best results was the Fergusson-Gilliam method. The normal pull of the round ligaments from the points where they emerged from the peritoneum for the purpose of bringing the fundus of the uterus well forward, and the ordinary round ligament operations therefore failed to give results. A uterus in a perfectly normal anterior position would have its fundus raised in the pelvis by making the round ligaments taut. Another objection to the usual methods of shortening the ligaments was the fact that after the ligament was made taut there was always a certain amount of the ligaments which would be pulled out from the inguinal canals, thus defeating the object of the operation. It was not possible to get the fundus of the uterus well anterior in any kind of round ligament operation unless it advanced the abdominal cavity. This was done by the Fergusson-Gilliam operation. In reply to the criticism that an operation of this kind did not suspend the uterus in its normal position, he said that the uterus was not suspended, but that the uterus was raised to its normal position, and that the uterus was not suspended, but that the uterus was raised to its normal position. If the uterus is in its normal position, the uterus

was pushed backward, and it was because of the tendency of this latter condition to occur where the ligaments were not advanced that he advocated the Gilliam operation.

Dr. FREDERICK H. MAIER stated that it might be well to divide the treatment of retrodisplacements of the uterus into the treatment of the complicated cases and that of the uncomplicated. The uncomplicated cases so rarely gave rise to symptoms that treatment was unnecessary. In the complicated cases, with the manifestation of symptoms besides the displaced uterus, there were frequently some pathological conditions of the ovaries, tubes, and pelvic peritoneum. These changes might be primary or secondary to the displacement, and invariably required remedying as well as the retroflexion or retroversion. He divided the operative treatment of retrodisplacements into three kinds, the intra-abdominal, the extraabdominal, and the vaginal. Concerning the extraabdominal means possibly in very rare instances in unmarried women physicians might be justified in doing the Alexander operation. The intra-abdominal method therefore seemed to be the operation of choice in most cases. He referred to Dr. Montgomery's broad conservatism in his thorough trials of the various operative procedures in his efforts to find an ideal method for the maintenance of the uterus in its normal position, the result of which had been the operation which Dr. Fisher had so ably described and which Dr. Maier thought undoubtedly possessed all the advantages of the other procedures with none of the disadvantages. He stated that ventrosuspension was rejected some time ago and that ventrofixation was done only upon women of advanced age; and, except the case which Dr. Montgomery had had of mechanical ileus, the results had been fairly good. No other operation so fully gave the impression that the uterus was swinging in its normal position as the Montgomery modification of the Simpson-Gilliam-Fergusson operation. He referred to what Dr. Baldy had said about the ideal operation being one that would not only maintain the uterus in a forward tilt, but lift up the ovaries, tubes, and broad ligaments to their normal plane; and stated that Dr. Baldy's operation could never raise the ovaries, tubes, and broad ligaments to as high a level as the Montgomery operation did, because it acted more particularly upon the central part of these organs, whereas, the other took the strongest part of the round ligament, about an inch from the side of the uterus, introduced it beneath the peritoneum, and carries it thus subperitoneally through an opening in the rectus muscle fascia. In this way, not only was the uterus maintained in its normal plane, but the appendages as well. In the Montgomery operation the ovaries and tubes were maintained at a higher plane in a forward position, and the operation was done subperitoneally. Next to the Alexander operation, he thought it the most physiological operation in use. He regarded it as possible that those who had not done the operation many times or followed its course might think, when they saw the round ligaments introduced into the small openings in the broad ligaments, that it bunched the peritoneal tissue. While it did in the beginning, the peritoneum soon accustomed itself to the changed conditions and this was soon rectified. In many cases he had found the uterus to be maintained at a much higher level than after ventrosuspension. The ovaries and tubes were well up and the patients complained of no symptoms.

Dr. THEODORE A. ERCK observed that some operators seemed to be too much wedded to the operation usually employed by them. He thought judgment should be reserved until a trial had been made of the individual methods. As was well known, none of the operations gave ideal results. He had done many ventrosuspensions by the Kelly method and knew of only one recurrence of retrodisplacement after a subsequent labor.

He had also employed the intraabdominal methods of shortening the round ligaments a number of times in suitable cases. Having assisted Dr. Baldy in his work, he resorted to his method and had applied it in probably a dozen or more cases during the last year and a half, without excluding entirely other methods. He believed Dr. Maier had not done or seen any such operation as that done by Dr. Baldy, since he said that it did not elevate the pelvic organs; Dr. Erck stated that of all the operations he had seen, if there was one that did restore the normal position of the uterus and lifted the ovaries and tubes to a desirable level, Dr. Baldy's operation, it seemed to him, did it most completely. His own experience with it had been very satisfactory. He had had occasion to reopen a patient, for the development of an ovarian cyst, nine months after an operation of this kind, and found that the round ligaments which had been attached to the posterior surface of the uterus at the level of the internal os were so smooth that they looked as if they were normally attached to the anterior surface.

Dr. L. J. HAMMOND said that if physicians were to follow the example of the various advocates in dealing with retrodisplacement of the uterus, both success and failure would result, and that that was precisely what his experience in the use of several of the methods spoken of had been. Physicians went through the various stages of enthusiastic advocacy of a method and then discarded it with as pronounced emphasis as they had advocated it before. Shortly after his graduation he began the use of pessaries with the expectation that he would secure perfect results in every case, but his disappointment was early realized. Shortly after this the use of ventrofixation came into use, and the failures were far more numerous than the successes. Then followed ventrosuspension and extraperitoneal suspension of the round ligament and broad ligament fixation, and here again failures were noted. His own experience had been that better results had been secured by the Alexander operation and ventrosuspension than by any other method he had employed. In the cases in which the Alexander operation had been a failure, he had found upon opening the abdomen that the uterus was so fixed that to employ any of the methods would have been meddlesome.

To deal alone with the pathological conditions was quite sufficient to secure as good symptomatic results as would be secured had resort been made to any of the fixation procedures. Freeing the adherent uterus and prolapsed and bound down ovary made uterine suspension unnecessary. Structural changes in the organ itself were more the fault than any ligamentous condition could possibly be; hence hygiene, dietetic and sanitary treatment, should be vigorously employed before any operative treatment was considered.

Dr. SWITHIN CHANDLER recalled that in the late eighties he remembered Dr. Goodell's speaking of the great trouble that the ordinary physician had in regard to displacements of the uterus. In a short while after that the Alexander and Adams operations followed, and since then he believed there were about 100 other operations upon the round and other ligaments and upon the uterus itself. He referred to an operation he had seen performed in which the operator brought the uterus clear outside into the vaginal canal and stitched it there. He thought the field for the Alexander-Adams operation an extremely limited one. If the operation was done it was impossible to correct the pelvic and abdominal diagnosis, and while many disliked to think that the diagnosis could be corrected, he thought it was at times desirable to do so and to remedy the same, and at the same time to correct the deformity or displacement. In opening the abdomen he had seen adhesions existing which, had an Alexander or an Alexander-Adams operation been done, would not have

been discovered. It would have been impossible in doing such an operation to diagnose this condition. Small tumors which in time became large could not be diagnosed in the Alexander operation. He considered Webster's operation on the round ligaments one of the best he had seen. Fixation, ventral, vaginal, or otherwise, he condemned, except in old or exceptional cases.

Dr. Chandler thought Dr. Beyea's paper full of judgment and good common sense, and agreed with him that any operation upon the round ligament must to some extent macerate the tissue; that if there was any infection of the tubes or other tissues, there was the danger of setting up some trouble in this disturbed tissue. He believed that the circulation was interfered with more than in ventrosuspension, and complications were more apt to occur.

In regard to the contention made in the beginning of ventrosuspensions, that there was much trouble in confinements, he agreed with Dr. Beyea that it was due to the fact that the operations were ventrofixations and not ventrosuspensions. It was even said that the bladder gave much trouble. In a series of cases, however, in which he had examined the bladder, the trouble was caused by some condition of the bladder itself and not by the operation. It seemed to be forgotten that there was a long ligament in ventrosuspension. Upon opening the abdominal cavity he had found this to be as much as two inches and a half in length. The normal ligaments acting to support the uterus in its correct position, the suspensory ligaments were simply a long fibrous band having now outlived its usefulness. This could not, however, interfere with pregnancy. He also had been carrying out the infolding of some of the muscle fibres in the suspension for several years and approved of it. In an examination of over 200 cases the failures had been found very few.

In the round ligament operations, in his opinion, there was more liability of adhesions between the uterus and the abdominal and pelvic walls. He had not had the experience which some other gentlemen had had in these round ligament operations, but had done the several operations two or three times, and they had not met with his approval. In one case the round ligament was so extremely small that the operation was not attempted. He emphasized the remarks of Dr. Beyea and thought physicians should cling to that which was known to be good—ventrosuspension.

(To be concluded.)

New Inventions.

THE LOOP DIRECTOR, AN ADJUNCT TO THE NASAL SNARE.

By CHARLES H. BURR, M. D.,

NEW YORK,

ASSISTANT SURGEON, MANHATTAN EYE, EAR, AND THROAT HOSPITAL; ATTENDING SURGEON, EYE AND EAR DEPARTMENT, NORTHERN DISPENSARY, ETC.

The snaring off of hypertrophied posterior tips of the turbinate is not usually considered easy, because of the narrowness of the nares preventing much lateral movement of the snare which requires that the loop shall be pretty straight in most cases to pass through without hurting the patient by scraping along the turbinate, while the position of the tips, lying parallel with the snare, calls for a loop that shall be at a right angle to the snare.

The loop director is an adjunct to the nasal snare and facilitates the removal of these pos-

Congenital Spastic Rigidity of the Limbs (Congenital Hypertonia, Little's Disease); on Primary Degeneration of the Pyramidal Tracts; Study of Eight Cases with Necropsy; on A Pathological Study of Amaurotic Family Idiocy; on The Occasional Clinical Resemblance Between Caries of the Vertebrae and Lumbothoracic Syringomyelia and the Location Within the Spinal Cord of the Fibres for the Sensations of Pain and Temperature; and on The Importance in Clinical Diagnosis of Paralysis of Associated Movements of the Eyeballs (*Blicklähmung*), especially of Upward and Downward Associated Movements. In association with Dr. Charles H. Frazier he has contributed a paper on The Treatment of Cerebral Palsies and Athetosis by Nerve Anastomosis and Transplantation; in association with Dr. Charles S. Potts, an article on Pseudosclerosis (Diffuse Sclerosis), with the Report of a Case, with Necropsy; and in association with Dr. George A. Moleen, a paper on Chronic Anterior Poliomyelitis, with the Report of a Case, with Necropsy. Dr. T. H. Weisenburg contributes papers on Pseudobulbar Palsy; on Bulbar Symptoms Occurring with Carcinoma of Parts Other Than the Nervous System and Resulting from Intoxication; and on The Pathology of Cerebellar Tumors. Dr. Carl D. Camp contributes papers on Muscular Atrophy, Degeneration of the Trigeminal Nerve and of the Lateral Columns, and Anæmic Changes in the Spinal Cord Occurring in Tabes Dorsalis; and on Fibrous Nodules in the Cerebral Piaarachnoid Causing the Appearance of Tuberculous Meningitis. Dr. John H. W. Rhein contributes papers on A Pathological Study of Acute Myelitis; and on Encephalitis and Other Nervous Affections Complicating Scarlatina. Dr. Alfred Reginald Allen contributes a paper on Combined Pseudosystemic Disease, with Special Reference to Anular Degeneration. Dr. C. W. Burr and Dr. C. D. Camp contribute a paper on Peripheral Obliterating Arteritis as a Cause of Triplegia Following Hemiplegia, and of Paraplegia. Dr. Charles S. Potts contributes a paper on A Case of Traumatic Cervical Hæmatomyelia and Complete Division of the Cord with Probable Dislocation of the Fifth Cervical Vertebra. Dr. Charles K. Mills and Dr. Carl D. Camp contribute a paper on A Case of Visual Hallucination and Crossed Amblyopia with Vascular and Degenerative Lesions in the Calcarine Cortex and Other Portions of the Occipital Lobe, also with Atrophy of the Pregeniculæ and Optic Tracts.

Space does not permit of an extended notice of these contributions, all of which show care in preparation and some of which are of value as marking a true advance in the appreciation of nervous pathology. The excellent summary of the pathology of cerebellar tumors by Dr. Weisenburg appeared in this journal in February, 1905, as a part of a "symposium" on Tumors of the Cerebellum. The paper, by Spiller and Frazier, on nerve anastomosis and transplantation, opens up a new field for investigation which promises results of the first importance in the relief of many troublesome conditions. Spiller's paper on paralysis of associated movements of the eyeballs is the presidential address delivered at the meeting of the American Neurological Association in 1905. It deals particularly with paralysis of upward and downward associated ocular movements in nine cases, in four of which microscopic material was carefully studied. As a result of his studies Spiller believes that persistent paralysis of associated lateral movement indicates a lesion of the posterior longitudinal bundle; that persistent paralysis of associated upward and downward movement indicates a lesion in the vicinity of the oculomotor nucleus; and that paralysis of associated ocular movements is not the result of a lesion of extracerebral nerve fibres.

In the paper on pseudobulbar palsy Weisenburg concludes that that complex of symptoms is probably always caused in the adult by bilateral lesions which may

be in the cortex, the subcortex, the internal capsule, the basal ganglia, or the brain stem. The cause of the entire process is usually an arteriosclerosis of the cerebral vessels.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ending May 11, 1906:

Smallpox—United States.

| Places. | Date. | Cases. | Deaths. |
|-----------------------------------|----------------------|--------|---------|
| California—Los Angeles..... | Apr. 21-28..... | 4 | |
| Dist. of Columbia—Washington..... | Apr. 21-May 5..... | 4 | |
| Georgia—Augusta..... | Apr. 23..... | 5 | |
| Georgia—Augusta..... | Apr. 23-May 7..... | 4 | |
| Indiana—Indianapolis..... | Apr. 1-8..... | 3 | |
| Indiana—Indianapolis..... | Apr. 29-May 6..... | 2 | |
| Louisiana—New Orleans..... | Apr. 21-May 5..... | 26 | |
| Massachusetts—Boston..... | Apr. 28-May 5..... | 1 | |
| Massachusetts—Natchez..... | Apr. 29-May 6..... | 3 | |
| Mississippi—St. Louis..... | Apr. 28-May 5..... | 1 | |
| Missouri—Omaha..... | Apr. 28-May 5..... | 2 | |
| Nebraska—Omaha..... | Apr. 28-May 5..... | 2 | |
| North Carolina—General..... | Mar. 1-31..... | 198 | |
| North Dakota—General..... | Mar. 1-31..... | 3 | |
| Ohio—Cincinnati..... | Apr. 27-May 4..... | 16 | 1 |
| Oklahoma Ter.—Oklahoma City..... | Apr. 21-May 5..... | 31 | |
| South Carolina—Greenville..... | Apr. 21-28..... | 1 | |
| Tennessee—Knoxville..... | Apr. 28-May 5..... | 1 | |
| Utah—Ogden..... | Apr. 1-30..... | 4 | |
| Virginia—Petersburg..... | Mar. 26-Apr. 26..... | 6 | |
| Virginia—Roanoke..... | Apr. 1-30..... | 16 | |
| Wisconsin—Appleton..... | Apr. 28-May 5..... | 1 | |
| Wisconsin—Green Bay..... | Apr. 28-May 5..... | 1 | |
| Wisconsin—La Crosse..... | Apr. 28-May 5..... | 1 | |
| Wisconsin—Marquette..... | Apr. 21-28..... | 2 | |

Smallpox—Insular.

| | | | |
|--------------------------------|-----------------|---|---|
| Philippine Islands—Manila..... | Mar. 10-17..... | 2 | 2 |
|--------------------------------|-----------------|---|---|

Smallpox—Foreign.

| | | | |
|------------------------------------|----------------------|----------|----|
| Africa—Monrovia..... | Mar. 1-31..... | 3 | |
| Austria—Trieste..... | Mar. 31-Apr. 7..... | 1 | |
| Canada—Toronto..... | Apr. 21-28..... | 1 | |
| China—Hongkong..... | Mar. 17-24..... | 19 | 5 |
| China—Shanghai..... | Mar. 24-31..... | Present. | |
| Germany—Bremen..... | Mar. 31-Apr. 21..... | 2 | 1 |
| Gibraltar..... | Apr. 15-22..... | 3 | |
| Great Britain—Bristol..... | Apr. 14-21..... | 2 | |
| Gt. Britain—Newcastle-on-Tyne..... | Apr. 14-21..... | 3 | |
| Greece—Athens..... | Apr. 14-21..... | 3 | |
| Greece—Patras..... | Mar. 20-27..... | 2 | |
| India—Bombay..... | Apr. 3-10..... | 23 | |
| India—Calcutta..... | Mar. 24-31..... | 224 | |
| India—Karachi..... | Apr. 1-8..... | 34 | 17 |
| India—Madras..... | Mar. 31-Apr. 6..... | 46 | |
| India—Rangoon..... | Mar. 24-31..... | 62 | |
| Italy—General..... | Mar. 22-Apr. 19..... | 176 | |
| Mexico—Vera Cruz..... | Apr. 21-28..... | 2 | |
| Netherlands, The—Rotterdam..... | Apr. 14-21..... | 1 | |
| Spain—Barcelona..... | Apr. 10-20..... | 7 | |
| Spain—Seville..... | Mar. 1-31..... | 15 | |

Yellow Fever.

| | | | |
|----------------------------|----------------------|----|---|
| Brazil—Rio de Janeiro..... | Mar. 18-Apr. 15..... | 11 | 7 |
| Honduras—Chaloma..... | Apr. 21..... | 1 | |

Cholera—Insular.

| | | | |
|-----------------------------------|-----------------|-----|-----|
| Philippine Islands—Provinces..... | Mar. 10-17..... | 116 | 101 |
|-----------------------------------|-----------------|-----|-----|

Cholera—Foreign.

| | | | |
|---------------------|---------------------|----|--|
| India—Bombay..... | Apr. 3-10..... | 35 | |
| India—Calcutta..... | Mar. 24-31..... | 31 | |
| India—Madras..... | Mar. 31-Apr. 6..... | 1 | |
| India—Rangoon..... | Mar. 24-31..... | 3 | |

Plague—Insular.

| | | | |
|--------------------------------|-----------------|---|---|
| Philippine Islands—Manila..... | Mar. 10-17..... | 1 | 1 |
|--------------------------------|-----------------|---|---|

Plague—Foreign.

| | | | |
|----------------------------|-----------------|-----|-----|
| Australia—Freemantle..... | Mar. 3-24..... | 3 | 1 |
| Australia—Geraldton..... | Mar. 3-24..... | 1 | |
| Australia—Sydney..... | Mar. 10-17..... | 1 | |
| Brazil—Rio de Janeiro..... | Apr. 1-15..... | 782 | |
| India—Bombay..... | Apr. 3-10..... | 232 | |
| India—Calcutta..... | Mar. 24-31..... | 150 | 126 |
| India—Karachi..... | Apr. 1-8..... | 86 | |
| India—Rangoon..... | Mar. 24-31..... | | |

Public Health and Marine Hospital Service:

List of Changes of Station and Duties of Commissioned and Non-Commissioned Officers of the Public Health and Marine Hospital Service, for the seven days ending May 9, 1906:

ADDIS, W. E., Acting Assistant Surgeon. Granted leave of absence for four days, from May 3, 1906, under Paragraph 210 of the Regulations.

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Births, Marriages, and Deaths.

Married.

BOON—BEAVY.—In Philadelphia, on Saturday, April 28th, Dr. David J. Boon and Miss Matilda D. Beavy.

Died.

BURNS.—In San Diego, California, on Thursday, April 26th, Dr. Arthur Manly Burns, aged sixty-four years.

CRAWFORD.—In Denver, Colorado, on Wednesday, May 2nd, Dr. Andrew W. Crawford, aged sixty years.

CRAWFORD.—In Laytonville, Maryland, on Friday, May 4th, Dr. Basil B. Crawford, aged seventy-three years.

DRAPER.—In Holyoke, Massachusetts, on Sunday, May 6th, Dr. Edgar L. Draper, aged sixty-four years.

ELY.—In Providence, Rhode Island, on Saturday, May 5th, Dr. James Winchell Coleman Ely, aged eighty-five years.

HAWKS.—In Lynn, Massachusetts, on Monday, May 7th, Dr. Esther H. Hawks, aged seventy-two years.

HOSMER.—In Chicago, on Saturday, May 5th, Dr. Arthur Burley Hosmer, aged fifty-two years.

HOVEY.—In Rochester, N. Y., on Saturday, May 5th, Dr. Bleecker Lansing Hovey, aged eighty-eight years.

HUGG.—In Cleveland, Ohio, on Sunday, April 20th, Dr. William M. Hugg, aged seventy-eight years.

LONG.—In Chicago, on Saturday, May 6th, Dr. Lawson A. Long, aged seventy-eight years.

LONG.—In New York, on Sunday, May 1st, Dr. Henry B. Long.

THOMPSON.—In Chicago, on Friday, May 4th, Dr. R. R. Thompson, aged thirty-one years.

WILLIAMS.—In New York, on Saturday, May 6th, Dr. Adrian C. Williams, aged thirty years.

Army Intelligence

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New York Medical Journal

INCORPORATING THE

Philadelphia Medical Journal and The Medical News

A Weekly Review of Medicine

VOL. LXXXIII, No. 21.

NEW YORK, MAY 26, 1906.

WHOLE No. 1434.

Original Communications.

BACTERIOLOGICAL TYPES OF ACUTE CONJUNCTIVITIS.*

By ALEXANDER DUANE, M. D.,

AND

T. W. HASTINGS, M. D.,

NEW YORK.

PART I. SYMPTOMS PRESENTED BY THE VARIOUS BACTERIOLOGICAL TYPES OF CONJUNCTIVITIS, by ALEXANDER DUANE, M. D.

The 132 cases here reported all occurred in my service at Cornell University dispensary, and the pathological examinations were made with great care by Dr. T. W. Hastings, of the pathological laboratory of that institution.

The cases are unselected, and as they comprise the large majority of all patients with secretion which presented themselves during two successive years, they give a fair average picture of conjunctivitis as it occurs in New York.

It was the purpose of this investigation to ascertain as far as could be done from a comparatively limited number of cases: (a) The prevailing types of bacterial infection in conjunctivitis; and (b) the relation between the bacteriological types present and the clinical symptoms.

Plan of the Investigation.—As each patient presented himself, note was made of the following particulars: Age and sex of the patient. Duration of the trouble. Condition of lids exteriorly (swelling and injection showing on cutaneous surface). Condition of palpebral conjunctiva (swelling and injection). Condition of ocular conjunctiva (injection, chemosis). Amount and kind of secretion. Character of corneal involvement, if any.

Unfortunately, in the hurry of dispensary work not all of these details were noted in every case. It is safe to say, however, that in no instance was any involvement of the cornea left unrecorded, and in general when any serious symptom, such as oedema of the lids, is not given, it was not present.

Directly after the physical examination and before any treatment was applied, the patient was taken to the laboratory for a bacteriological diagnosis (see Part II).

Bacteriological Types Represented.—The cases included the following bacteriological groups:

I. *Gonococcus* Infection. But one case of this

type presented, and this an atypical one in a woman of thirty-five in whom the inflammation had already existed for four days. There was only slight discharge and moderate swelling of the palpebral conjunctiva, rather intense general injection of the ocular conjunctiva, and no involvement of the cornea. So far the inflammation was of a mild type, but as an offset to this there was an adherent false membrane on both upper and lower lids. The subsequent history of the case is unknown.

2. Infection with Weeks's bacillus. (a) Pure or nearly pure infection: There were ten cases of pure infection. Of these, five had profuse mucopurulent or thick purulent discharge, and in one of these cases the other symptoms were intense (moderate swelling of the lids, great injection of the ocular conjunctiva with large subconjunctival hæmorrhages, and slight chemosis. In addition to these cases of pure infection there were three in which Weeks's bacillus was a probable factor (all with slight symptoms) and eight in which the xerosis bacillus was also present. In the latter group there were three cases with profuse discharge; in one of these chemosis was present and in another there were subconjunctival hæmorrhages and marked oedema of the lids. In none of the twenty-one cases of this group was there any involvement of the cornea.

(b) Mixed infection with Weeks's bacillus and staphylococcus albus.¹ There were seventeen cases. In ten there was purulent, usually profuse discharge; in five cases oedema of the lids sometimes quite marked; in four cases chemosis, and in three involvement of the cornea.

(c) Mixed infection with Weeks's bacillus and staphylococcus aureus. Four cases; discharge profuse in two; oedema of lids in one. In all four there was injection of the eyeball; in two there was chemosis, and in three involvement of the cornea.

(d) Infection with Weeks's bacillus and micrococcus catarrhalis. Two cases; one an old trachoma with acute exacerbations; the other a type of intense infection with profuse greenish discharge, very intense injection of the eyeball, and marginal infiltration of the cornea.

(e) Infection with Weeks's bacillus and bacillus pneumoniae of Friedländer. One case; slight discharge, marked swelling of upper lid which was coated with a diffuse, white, rather tenacious and adherent membrane. In two days this softened and seemed to consist of little more than

¹ Some of these showed also the xerosis bacillus.

* Read in abstract before the American Ophthalmological Society, May 11, 1905.

concurrent process. There were probably other organisms present because the two mentioned.

3. Infection with *staphylococcus albus*. (a) Pure infection. Eighteen cases, three of these were trachoma with acute exacerbation. In three others there was a persistent, recurrent, more or less chronic, nontrachomatous inflammation. In two of the trachoma cases the discharge was purulent and intense blepharitis present. One case in infancy led to appearance of strabismus resembling a squint, namely, but the bacteriological examination showed typical trachoma granules. In the fifteen cases in which trachoma could be excluded, the discharge was purulent in six and profuse in one; in two there was swelling of the lids. In one case there was an ulcer of the conjunctiva outside of the cornea and in five cases involvement of the cornea.

(b) Mixed infection with *staphylococcus albus* predominating. Two cases in which the *staphylococcus albus* was combined with the *micrococcus catarrhalis*. The only evidences of severity were an ulcer of the conjunctiva and œdema of the lids and rather marked chemosis. In this case, however, it is probable that another organism, the *bacillus pneumoniae*, was present with the *staphylococcus* and the *xerosis bacillus*.

4. Infection with *staphylococcus citreus*. Three cases, two of which were consecutive to abscess of the lid. In one of these *staphylococcus albus* also present. No symptoms.

5. *Staphylococcus aureus*. Six cases; one of pure infection, the others of mixed infection with *staphylococcus albus*, or with the latter and the *bacillus xerosis*. One of these was secondary to an abscess of the lids. Of the five primary cases, three showed involvement of the cornea and one other a marked injection of the eyeball with punctate hæmorrhages. Three showed purulent, more or less profuse discharge.

6. *Streptococcus* Infection. Two cases; no spe-

7. *Pneumococcus* Infection. Twenty-two cases. Practically all of these were mixed infection, in some cases five different organisms being present at the same time. The prevailing combination were the *pneumococcus* and the *Weeks's bacillus* four cases, and *pneumococcus* with *staphylococci* eleven cases. Five of the cases were trachoma in a state of acute exacerbation, and in two cases there was a dacryocystitis. In the seventeen nontrachomatous cases the evidences of virulence were very slight. In only five cases was the discharge profuse. In one case the secretion formed a tenacious membrane adherent to the tarsus, but this soon cleared up. In this case the only other organism present was the *bacillus xerosis*. In three cases out of the seventeen there was involvement of the cornea; in one of these the *Weeks's bacillus*, in the other two, *staphylococci* were associated with the *pneumococcus*. It is particularly to be noted that those cases in which four or five different kinds of organisms were present were not particularly severe.

8. Infection with *diplobacillus of Morax*. Five cases; three certain, two probable. One was a pure infection; four were mixed infection usually

staphylococcus albus. Only one case showed any evidence of severity, there being chemosis with an ulcer of the ocular conjunctiva. As no attempt was made to differentiate this *diplobacillus* from the closely related organisms described by Petit and by Rochat, it is possible that the latter may have been present in some of the five cases here grouped. This, however, is unlikely.

9. Infection with *xerosis bacillus*. The *xerosis bacillus* was found in thirty cases, usually in association with other organisms. The only case that seems worthy of mention is one of lupus of the conjunctiva with a membrane on the lids composed of great masses of *xerosis bacillus* in almost pure culture. There were also the *Weeks's bacillus* and *staphylococcus albus* which were probably responsible for the profuse purulent discharge present in this case. There was no *xerosis* of the conjunctiva.

10. *Diphtheria bacillus*. Two cases, both with false membrane. One apparently with an associated nasal and pharyngeal diphtheria got well; the other passed from under observation. It is noteworthy that in the former case a brother and sister were simultaneously affected, but showed infection with *Weeks's bacillus* only, and that all three cases had profuse purulent discharge.

11. Uncertain Infection. Ten cases showed the presence of bacteria which, however, could not be certainly identified.

12. Findings negative. In twelve cases the bacteriological findings were negative. In two of these cases, however, no culture was taken, only smears being examined. One of these sterile cases was a trachoma with persistently recurring acute exacerbations unchecked by treatment. Of the other eleven cases there was one with profuse purulent secretion, there were at least six with marked injection of the eyeball, two cases showed chemosis, and two had ulcers of the cornea. In view of these evidences of intense reaction it is hard to believe that organisms were not present, and the fact that they were not discovered in these twelve cases simply affords another proof that our bacteriological diagnosis is not inerrant, at all events, that a negative finding is never sufficient evidence of the pathological innocuousness of the conjunctival secretion. (Cf. Groenouw's observations cited later.)

Relations Between the Clinical Symptoms and the Bacteriological Types.—Since conjunctivitis represents the reaction produced by the specific action of bacteria, we may inquire how far does the variety of bacteria present determine (a) the clinical form of the conjunctivitis, and (b) the intensity of the conjunctivitis?

1. *Clinical forms of conjunctivitis produced by different kinds of bacteria.* Clinically we may distinguish three types of conjunctivitis:

A. The *palpebral* form, in which the conjunctiva of the lids is mainly affected. In severe forms of this type the lids are swollen and œdematous, and the palpebral conjunctiva swollen and diffusely engorged, and the discharge is profuse and purulent, while the ocular conjunctiva is but slightly reddened.

B. The *ocular, or pink eye*, form in which the

conjunctiva of the lids is but slightly affected, the lids themselves are not swollen and the discharge is scanty, but the ocular conjunctiva is diffusely reddened and sometimes chemotic and not infrequently there are subconjunctival hæmorrhages, punctate or patchy (hæmorrhagic conjunctivitis).

C. The *mixed* form in which the severe symptoms of both types are combined, that is, the lids are swollen, both palpebral and ocular conjunctivæ are intensely injected and engorged, the discharge is or soon becomes profuse and purulent and there are subconjunctival hæmorrhages. Sometimes when the reaction is exceptionally severe a false membrane forms on the conjunctiva of the lids.

In a general way we may say that in gonococcus infection the palpebral type of conjunctivitis predominates, although if the infection is at all severe, inflammation of the mixed type is produced. On the other hand, the ocular type of conjunctivitis, the typical pink eye, has been regarded as especially characteristic of the infection by Weeks's bacillus. It is doubtless true that this form does occur more often with the Weeks's bacillus than with other organisms, but then again, as was shown repeatedly in our cases, Weeks's bacillus may cause conjunctivitis of a decidedly palpebral type or a mixed conjunctivitis.

On the whole, the more we study these cases the more it appears that no particular type of conjunctivitis is to be associated with a particular germ, and that we cannot from the clinical aspect of a conjunctivitis draw any positive inference as to the germ causing it.

One special kind of conjunctivitis deserves mention on account of its great clinical significance, and that is *membranous conjunctivitis*. This is now recognized as expressing merely the reaction which may be produced in the conjunctiva by any severe irritant, for example, the diphtheria bacillus, the streptococcus, or even a chemical agent, such as silver nitrate, when applied too heavily or too often.

In the series under consideration there were six cases of membranous conjunctivitis, two due to diphtheria bacillus, one to gonococcus, one to mixed infection by the bacillus of Weeks and the bacillus pneumoniae with probably other organisms, one to the pneumococcus and bacillus xerosis, and one apparently to bacillus xerosis alone, since the membrane on the upper lid in this case consisted largely of masses of this organism in pure culture. The presence of a membrane does not always indicate excessive severity. Thus, one of the diphtheria cases ran a very benign course (perhaps as the result of the early use of antitoxine), and in the case due to the gonococcus the other symptoms were surprisingly mild.

Another form of conjunctivitis that interests us is the *acute inflammation that occurs in the course of a trachoma*. This is of clinical importance, because it is likely that it is particularly these acute forms which are responsible for the dissemination of trachoma. The latter in its ordinary chronic state with but little secretion is certainly only slightly contagious, but when

through some extraneous infection the conjunctiva becomes acutely involved and discharges freely, a medium is afforded for the transfer, not only of the organism directly causing the discharge, but of the trachoma organism as well. Thirteen such cases of trachoma in the acute stage were observed in this series, as follows: Weeks's and xerosis bacillus, one case; Weeks's and staphylococcus albus, one case; Weeks's and micrococcus catarrhalis, one case; staphylococcus albus, three cases; pneumococcus and (few) Weeks's bacilli, one case; pneumococcus, staphylococcus albus, and micrococcus catarrhalis, one case; pneumococcus, staphylococcus albus and citreus, and micrococcus catarrhalis and tetragenus, one case; pneumococcus and staphylococcus citreus, one case; pneumococcus, staphylococcus albus, aureus, and citreus, and micrococcus catarrhalis, one case; while in one case the finding was uncertain and another case was negative. A pretty heterogeneous collection.

2. *Intensity of inflammation*. Just as all kinds of conjunctivitis may be produced by any one germ, so all grades of intensity may be thus produced, although, of course, certain organisms, like the gonococcus, the diphtheria bacillus, the streptococcus, and the pneumococcus are particularly virulent.

It so happened that in this series of cases the inflammation produced by just these organisms was relatively mild, no single one of the twenty-nine cases due to these four germs being associated with, for example, destructive disease of the cornea. It is involvement of the cornea, indeed, that, clinically speaking, forms our test of the seriousness of the conjunctivitis, for, no matter how severe the other symptoms may be, we regard the condition as benign if the cornea remains intact. Judged by this criterion, Weeks's bacillus is relatively innocuous, for in no single case in which infection was produced by Weeks's bacillus alone or in combination with the xerosis bacillus, was the cornea involved.

On the other hand, the staphylococcus albus and still more the staphylococcus aureus, showed a fairly well marked pathogenicity as regards their action on the cornea. Thus, as above shown, in twenty-one nontrachomatous cases in which the staphylococcus albus was present alone or with bacillus xerosis or micrococcus catarrhalis, there was involvement of the cornea in five.

To this may be added that of the thirteen cases of trachoma on our list, there are only four in which involvement of the cornea was recorded and of these, two were cases of pure staphylococcus infection, the other two being cases of infection with pneumococcus and staphylococcus citreus and with pneumococcus, staphylococcus albus, aureus, and citreus, and micrococcus catarrhalis. Furthermore, of the seventeen cases of mixed infection with Weeks's bacillus and staphylococcus albus (or sixteen cases if the one case of trachoma is excluded), there were three with involvement of the cornea. It would seem, therefore, that the staphylococcus albus distinctly predisposes to involvement of the cornea.

This is still more the case with the staphylo-

cornea known. That sort of infection with the staphylococcus aureus alone or of the staphylococcus aureus combined with the staphylococcus epidermidis, however, or Weeks's bacillus alone, or with there was corneal infection.

Finally, as an evidence of the possible part played by the staphylococcus in producing infection of the cornea, it may be stated that excluded from the conditions under which the corneal infection were usually odd there were only three cases of corneal disease out of twenty cases of infection by the pathogenicity and of these three were cases of mixed infection with staphy-

lococcus. The fact that the staphylococcus albus is almost a constant inhabitant of the conjunctival sac does not invalidate this conclusion. The explanation in this situation is, no doubt, ordinarily there is a barrier because the structures of the eye are resistant to its influence or, more probably, as the interesting observations of Bosworth (11) indicate, because there is some condition present that renders the germ inactive. If, however, this inhibitory condition is removed, or if in some other way the pathogenic action of the germ is enhanced, the staphylococcus may produce active and even destructive inflammation of the cornea. The results of the experiments of Bosworth (11) and of the still more instructive observations of Allen (12), which afford direct and conclusive proof of the pathogenic possibilities of the staphylococcus albus.)

This view is in line with that expressed by Coppez, who thinks that the conjunctival staphylococci vary greatly in pathogenic power, so that some are innocuous, while in other cases they are the direct agents in producing a conjunctivitis. Even if we do not go so far as to hold with Uthoff and Groenouw, that the existence of a specific staphylococcus conjunctivitis is still sub judice, and if, too, we may not be willing to concede what many believe that staphylococci are the cause of phlyctenular keratitis, we shall hardly be wrong in claiming that staphylococci in the conjunctival sac are at times directly pathogenic and that, as Groenouw (13) says, they are certainly able to produce conjunctivitis.

So far as the staphylococcus aureus is concerned, the evidence of pathogenicity is still stronger. This germ is not very frequently found in the normal conjunctival sac, and the best authorities report that when found on the conjunctiva it is not pathogenic for the eye, and is somewhat doubtful that the direct exciting cause of a conjunctivitis.

Finally, as to all cases of conjunctivitis are probably examples of mixed infection, in that several organisms are present at the same time in the conjunctival sac. Often enough, however, these different germs can thus present themselves, they may be regarded as infections of the eye, they may be slightly pathogenic, or they may be innocuous, or finally because they are so small and so numerous contaminations or a

already far advanced in disease. This last explanation, according to some, accounts for the staphylococci found in phlyctenulæ. On this supposition the staphylococci would have nothing to do with causing the phlyctenulæ, but simply flourish in the latter, because the morbid conditions are such as to favor their entry and multiplication.

In true mixed infections several sorts of actively pathogenic germs are present in considerable numbers from the outset. In such cases it would seem that the pathogenic action of any one germ is not particularly enhanced by the presence of the others. Thus the pathogenicity of the Weeks's bacillus and the staphylococcus albus acting together did not appear to be any greater in our series of cases than that of the staphylococcus alone. And in our cases of pneumococcus conjunctivitis, which were nearly all examples of complex infections, sometimes five different kinds of bacteria being present at once, the inflammation was of rather a mild type, almost as if one germ inhibited instead of assisting the action of the others.

Conclusions.—If the correctness of our observations be granted, the following conclusions seem to be justified:

1. There is no special type of conjunctivitis associated with any special germ. The clinical picture, therefore, affords no clue to the germ causing the conjunctivitis.

2. While certain organisms, like the gonococcus, diphtheria bacillus, and streptococcus, usually cause severe reaction, and the other germs regularly produce much slighter effects, this rule has many exceptions, and no sure deductions can be drawn from the intensity of the inflammation as to the germ causing it.

3. Membranous conjunctivitis, as is well known, may be caused by a variety of organisms. It does not necessarily indicate a severe inflammation, nor one that will always produce other evidences of excessive reaction besides the false membrane.

4. In trachoma, particularly trachoma in the stage of acute exacerbation, a variety of organisms may be present. These do not, of course, cause the trachoma, but they are of importance in that they do produce an intercurrent acute conjunctivitis with secretion which latter serves as a carrier of contagion and thus disseminates not only the conjunctivitis, but the trachoma as well.

5. The staphylococcus albus and particularly the staphylococcus aureus when occurring in the conjunctival sac are sometimes at least pathogenic, and distinctly predispose to the production of corneal lesions. The fact that the staphylococcus albus is probably an almost constant inhabitant of the conjunctival sac, does not invalidate this conclusion.

6. Very mixed infections seem, if anything, to be rather less severe than those in which one germ is the predominant infecting agent.

In presenting these conclusions let me forestall inevitable criticism by saying that I do not attach too much importance to the bacteriological findings, and I admit that deductions can be made from them only with considerable reserve. I

know that the methods employed may fail, and in some of our cases undoubtedly did fail to show all the bacteria present, and that, in particular, the staphylococcus albus and the xerosis bacillus were undoubtedly present more often than they were found. That this must have been so seems evident from the demonstrations of Randolph, Gifford, Groenouw, and others. Yet even if they had been found more often, it is doubtful whether such a finding could properly be regarded as affecting the deductions in any way. For the presence of a few staphylococci or of even many xerosis bacilli in the secretion would in all probability have no pathological significance whatever. For this reason, Dr. Hastings, as he states later on, has not attributed ætiological importance to the staphylococci in any case in which they failed to develop abundantly on the ordinary media.

That there were so many cases in which the bacteriological finding was uncertain or negative may seem surprising, but the result is paralleled by the observation of Groenouw, who in one third of his cases of ophthalmia neonatorum failed to find any germ capable of causing the inflammation.

A weightier objection has already been touched upon. It is urged with much plausibility that staphylococci when found in old cases, particularly in the corneal lesions, represent not the primary infecting germ, but a secondary invasion, so that they are to be regarded not as the cause of the lesion, but simply as a complication of it or as a mere contamination.

Finally, deductions as to the action of pathogenic germs must reckon not only with the kind of germ present and with its amount, points both fairly covered by Dr. Hastings, but also with its varying pathogenicity. Different specimens of the same germ may differ widely in this regard, and even the same specimen may differ from time to time, according to the conditions that affect it.

All these considerations show that, to warrant sure conclusions, a much larger number of cases ought to be examined than in the series here presented and that the conditions ought to be more thoroughly investigated and more precisely stated. Nevertheless, I think that the bacteriological findings here given and the deductions made from them have a certain value. They are offered as a contribution to a most important subject, which, though much investigated, still presents many problems for solution.

(To be continued.)

OBSERVATIONS ON FIBROMYOMATOUS TUMORS OF THE UTERUS.*

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Two years ago I presented before this society a paper containing my personal observations on

the remote results of conservative surgery on the uterus and pelvic annexa. This evening I shall ask your attention to a few modifications of my views on pelvic surgery, because with riper experience I have come to have very positive convictions as to the clinical course and treatment of several pelvic conditions.

Included in the one hundred and sixty-one cases previously reported, in which conservative work was done on the annexa, there were twelve patients presenting fibromyomatous growths of the uterus. These tumors varied in size from that of a walnut to that of a small cocoanut; all were treated by myomectomy. Seven of these twelve women have had a subsequent hysterectomy for recurrent fibroid disease, and these, together with thirty-one additional cases of uterine fibromyomata, will make the basis for my remarks.

Of these thirty-eight patients, twelve have had previous myomectomies, seven were operated by me and five by other surgeons. All of these tumors were of the hard, encapsulated variety, and located in the body or fundus of the uterus. None of my patients at the time of operation presented more than three tumors for removal and no sub-peritoneal nodules, appreciable macroscopically were overlooked, consequently these cases must be admitted as ideal ones for myomectomy, yet recurrent growths occurred. Tait, Gusserow, and others have noted that multiple encapsulated tumors occur most frequently in the body and the fundus of the uterus, which may explain the further development of fibroidal disease after myomectomy, inasmuch as it is quite impossible to remove every nodule. All fibroids begin their development as interstitial tumors and may remain dormant for considerable periods, then suddenly begin to grow under the stimulus of a circulatory derangement. The circulatory equilibrium of the uterus is disturbed, by pregnancy, endometritis, misplacement; it has seemed to the writer that myomectomy has acted as a stimulant, disturbed the circulatory balance in the uterus and caused a more rapid growth of the remaining fibroid nodules, because of the inflammatory changes produced in the uterine tissues as a result of excision and suture. Three cases in support of this statement will be cited later.

The youngest patient in this series was twenty-two, the eldest forty-nine. All but two were married. Fifteen had had one or more children during the early period of their sexual activity. Six others had been pregnant, but had miscarried during the early months of gestation, making twenty-one in all who had conceived, either before or during the development of fibroid disease. Only one patient had passed the menopause. Twenty-seven had always suffered from a profuse flow and comenstrual dysmenorrhœa, since the occurrence of puberty. These women are recorded as having anteflexed uteri, which in the experience of the writer has had a causal relation to the development of fibroids. The consequent endometritis associated with acute anteflexion sooner or later changes the uterine circulation. Eleven had had no disturbance of the menstrual function, frequent micturition and en-

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enlargement of the uterus being the first signs to draw the patient's attention to her pelvis.

Thirty-one of the tumors were of the submucous variety, three being submucous myomata, which were attended by excessive and continuous blood loss for several months prior to operation, producing a marked diminution in the number of red cells and lowering the hemoglobin. The hemoglobin was below thirty per cent. in four of these patients and the red cells below 2,500,000.

Complete removal of the uterus was done in all but one of this series, this patient presenting a unusual case as well as being the only one in which a complete hysterectomy was done. In two cases both ovaries were diseased and removed, and in one was adherent with the uterus. In four both ovaries were saved in the patient, while in five one or a portion of one ovary was conserved. Thus, it follows, to be good practice, in the presence of the uterine myomata does much toward softening the growths of the uterine polyps, often not pronounced where double castration has been done. The tubes were removed in many instances, and were found adherent, occasionally infected, or otherwise diseased in twenty-three of the thirty-eight cases recorded.

Peritoneal adhesions complicated the operation at a marked degree in four of my patients; these adhesions had been the subjects of old gonorrhœal infection of the tubes, two of whom had developed pelvic abscesses, as the result of acute exacerbations. These abscesses had been opened by the vagina and drained. Moderate adhesions were present in twenty-seven, while only seven of the tumors were free from any evidence of an associated peritonitis. Six femoral thromboses occurred among these women, appearing on from the sixth to the nineteenth day after operation. None of these cases ended fatally, though the convalescence was much prolonged and the patients have some of the remote effects of the phlebitis to this day.

But one tumor showed evidence of malignant degeneration of a sarcomatous nature, and one presented a necrosis of the fibroid itself. This tumor was a subperitoneal growth, whose pedicle had become twisted, which permitted the tumor to fall into the pelvis and become incarcerated behind the uterus, a collateral circulation had been established between the surface of the tumor and the peritoneum, but the blood supply of the deeper structures was cut off.

Cardiac disease was recognized in seven of my patients, six of whom gave no history of the disease, angina, etc.; basic murmurs of the aortic valve were fairly constant, being present in five of the thirty-eight women examined, while mitral leaks were marked in six. The degree of anemia varied, but the number of red blood cells was below the normal in all but three, many of these women being in apparently perfect health.

There was only one postoperative death in this series. This woman died of shock fifteen hours after operation. The fibroid was about the size of a hen's egg, firmly wedged into the pelvis by extensive vaginal and parietal adhesions, resulting from the leakage of two gonorrhœal tubes.

The resistance of such patients is materially lowered first, because of the changes in the heart and bloodvessels consequent upon and always associated with fibroidal disease, and, secondly, because of the enforced invalidism produced by repeated attacks of pelvic suppuration.

Considering that only one tumor was as large as a child's head, the difficulties of the operations and the complications presented plead more forcibly than words for the early removal of fibroids. Having thus briefly stated my observations in connection with these cases, I ask: Is myomectomy the proper procedure in the treatment of fibroids, unless in special cases under special conditions? The fact that fibroids are always multiple, except for rare exceptions, would of itself temper the answer to this question. Nearly one third of these patients had had a myomectomy, yet each demanded hysterectomy at the time that she presented herself to me for operation. Is not this positive proof of the tendency of fibroids to recur? Again for the removal of intramural tumors myomectomy is more dangerous than hysterectomy. Furthermore, in three instances, in women between thirty and thirty-five years of age, myomectomy actually seemed to cause a more rapid growth of the remaining, though unrecognized nodules.

CASE I.—Mrs. A., thirty-five years of age, presented on examination three subperitoneal nodules, the size of a hen's egg, on the body and fundus of the uterus, posteriorly. The uterus was dilated and curetted and no submucous growths noticed, the abdomen was then opened and the three tumors mentioned enucleated without difficulty. The uterine wounds were closed with interrupted sutures of catgut, securing perfect hæmostasis and the patient went on to an aseptic convalescence. On examination before her dismissal from the hospital, the uterus was large, firm, and there was a boss at the left cornu, which was free from any involvement at the time of operation. Six weeks later this nodule was larger than a hen's egg, and another small nodule, of the size of a walnut, had appeared at the right anterior corner of the fundus. One year later continued abdominal soreness and the increased growth of these tumors caused the patient to consent to further operation. The supracervical portion of the uterus was removed through an abdominal celiotomy and upon section presented sixteen well defined tumors, varying in size from that of an agate to that of a large orange.

CASE II.—Mrs. M., aged thirty-one, had eleven fibroid tumors enucleated from her uterus by a prominent surgeon three years ago; rapid abdominal enlargement, and frequent micturition as well as the persistence of abdominal soreness caused her to seek my counsel. On examination her uterus was of the size of a five months' pregnancy, but irregular in contour, owing to the presence of several smooth and well defined nodules near the fundus. Hysterectomy was advised and accepted. The sectioned uterus presented thirty-nine distinct tumors.

CASE III.—Mrs. K., aged thirty-three, had a small subperitoneal fibroid, of the size of a goose egg, removed from the posterior wall of her uterus, about four years ago. At the time of operation there were no other nodules to be seen. Within four months after her operation, however, she returned to me for pelvic pain, and on examination I found the uterus hard and enlarged to the size of a three months pregnancy, the fundus presented marked irregularity and several small but smooth and well defined tumors were distinctly felt on the anterior and fundal wall of the uterus. Hysterec-

tomy was made three years after her previous myomectomy, and the uterus was found to be the site of numerous encapsulated nodules.

Such experiences as these tend to make the so called conservative surgeon more radical in his treatment of fibroids. While a fibroid is generally considered as a benign tumor, originating and developing according to Bishop in the uterine muscular wall or in some of its outlying processes, composed of fibrous and muscular tissue in varying proportions, it is not benign in its influence on the economy.

Clinical experience has taught me that patients with fibromyomata have a weak heart, especially if the tumors have attained considerable size, and cardiac weakness may lead to venous thrombosis of the pelvic and femoral veins, and possibly pulmonary embolism. Basic murmurs associated with pronounced anæmia were present thirty-one times in this series. Both tubes were irreparably diseased in twenty-three instances. Pelvic peritonitis or the resulting adhesions complicated the removal of the tumor in thirty-one of my patients, while both ovaries were diseased beyond conservation in twenty-seven. Femoral thrombosis occurred during aseptic recoveries six times and sarcomatous degeneration of the tumor once. Certainly such an array of complications, in so limited a series, must make one less prone to permit the patient suffering from fibroids, go unwarned as to her possible dangers.

The larger a fibroid is permitted to grow before operative intervention, the greater the operative difficulties and the more guarded should be the prognosis. Fibrosis becomes general in its effects as the local disease progresses. Continued or repeated hæmorrhage, however slight, produces a degree of anæmia, which in some cases may become pronounced, manifesting itself in cardiac palpitation, dyspnœa, œdema of the lower extremities, more or less albuminuria, diminished number of the red blood cells, and a lowered percentage of hæmoglobin. These symptoms often disappear on the cessation of the bleeding, but if the attacks of hæmorrhage recur at short intervals such symptoms are likely to become permanent and leave their effect on the heart muscle, producing myocardial changes, which may result in actual degeneration, as brown atrophy of the cardiac muscle and arteriosclerosis of the pelvic vessels. Such changes in the circulation and circulatory apparatus favor the occurrence of thromboses in the uterine and pulmonary vessels, occasionally producing fatalities from heart failure and pulmonary and cerebral embolism, in the course of an apparently normal convalescence. Baldy reports thirteen sudden deaths from cardiac, pulmonary, and cerebral embolism occurring among the cases of fibroid operated on at the Gynæcean Hospital, and holds that fibroid disease of the uterus is not a local one alone, but is practically a general one, in that it involves other organs. This he says is the strongest argument "to remove these tumors when you first see them."

Twenty-seven of my patients are recorded as having anteflexed uteri, and comenstrual dysmenorrhœa had been the most constant symptom

complained of during their menstrual life, up to the time of the recognition of the tumor and its removal. Only ten of these patients or slightly more than one third of the class with anteflexions had been pregnant. The remaining seventeen were sterile.

It has been the writer's experience that when a woman with a marked anteflexion of the uterus does not become pregnant during the early period of her sexual life, and when upon examination the body of the uterus exhibits extreme sensitiveness as it is manipulated between the examining hands, showing a chronic congestion, that in later years she has become the subject of fibroidal disease. This coincides with the observations of Olshausen. Pain, in the form of comenstrual dysmenorrhœa, and menorrhagia associated with marked anteflexion are pretty constant precursors of fibromyomatous disease. In the six cases in which the hæmorrhage was considerable, the growths were of the submucous variety, five were sensile, and one pedunculated. Those having a broad attachment included the three cases noted above in which the hæmorrhage was excessive and presented a glandular and interstitial endometritis as the cause of the hæmorrhage. While the menstrual period was longer, or the flow more copious in nearly all of my patients, only these six applied for treatment because of profuse bleeding.

When shall we do myomectomy and when hysterectomy? Myomectomy should be the operation of choice in a young woman with a small tumor or tumors, of the subperitoneal or submucous variety, anxious to bear children and willing to take the risks of a possible subsequent procedure. Myomectomy is more dangerous than hysterectomy, when dealing with interstitial growths encroaching upon the endometrium, owing to the circulatory changes which occur in the heart, blood, and bloodvessels in fibroidal disease. Sepsis, hæmorrhage, thrombosis, and embolism are more liable to occur. While myomectomy saves the uterus in some cases, it is not always easy to be sure that there are not other fibrous nodules left in the uterine body, which may grow and develop, and this is apt to be the case, should the subject of a myomectomy fail to become pregnant within a reasonable time after the operation. It is claimed by some observers that fibroids grow under the stimulus of pregnancy; this growth, however, is relative rather than actual, and at the termination of pregnancy the tumor reduces in size proportionate to the involution (shrinks as the uterus involutes). On the other hand, the uterus that does not go through the changes of gestation may become the seat either by weight (hyperplasia) or misplacement of an endometritis which has a direct causal relation to the rapidity of a fibroid's growth. Every fibroid is accompanied by hypertrophy of the mucous membrane of the uterus.

Convalescence is smoother after supracervical hysterectomy than after myomectomy, adhesions are fewer and the subsequent comfort of the patient is greater.

One or both ovaries, if they are free from disease, should be left, in order that the internal

menstruation may be diminished and the uterus enlarged while menstruation ceases. When they are removed during the postmenstruating period, such be regarded.

There can be doubt, considering the weight of evidence, that fibromyomata predispose to malignancy. Malignancy may arise from them either by metaplastic degeneration, and adenocarcinoma of the body or a myxomatous uterus is not infrequently particularly apt to do so after the menopause. Rapid growth, hemorrhaging are the most marked signs of degeneration. Offensive discharge means malignancy, and is usually imaginary change.

Every personal experience with fibroids I should say that if by some means any treatment, it should be operative and further that every tumor should be operated upon as soon as the diagnosis is made, except small ones in young women, and these patients should be made to understand the necessity of frequent examinations. I have seen many rapidly in women between thirty-five and forty, and personally I have never seen a tumor in which the tumor was of any size, cease to grow with the arrival of the menopause.

Whether myomectomy is preferable to hysterectomy in a given case depends largely on the age and physical condition of the patient, the involvement of the uterus, the size and distribution of the tumors, and the amount of healthy myometrium present. Single or multiple submucous tumors of the fundus and body and polypoid submucous tumors offer the widest field for the application of this operation. Yet it must be remembered that all fibroids originate as interstitial tumors, and are evolved toward the inner or outer surface of the uterus by muscular contraction. Hence it is always possible to overlook many interstitial nodules which have not as yet become confined to the surface; this point must never be lost sight of in determining the form of operation for the individual case. In 54 per cent. of fibromyomata the annexa are diseased. In the presence of such a complication the uterus is better removed. Again, a large number of these women are the subjects, innocently or otherwise, of gonorrheal infection, which has extended to the tubes and the peritoneum. What use is it in such a patient to attempt to leave the uterus? Pelvic suppuration is a contraindication to the performance of myomectomy.

In closing, let me say, that I believe that unless the woman is young, the tumors subperitoneal or submucous and of small size, and the case is thoroughly explained, supracervical amputation offers no certain and grateful relief.

—J. H. HOWELL WAY.

The study of Medicine in Japan.—The Young Men's Medical Association, recently sent out its annual report. One half of its members in Japan, but a few years ago, were in the United States. The report contains a list of names of the members, and a list of the names of the hospitals and clinics where they were studying. The report also contains a list of the names of the medical schools in Japan, and a list of the names of the medical journals published in Japan. The report is a valuable contribution to the knowledge of the medical profession in Japan, and is a valuable reference for the medical profession in the United States.

DO HEALTHY INDIVIDUALS INCUR ANY GREATER DEGREE OF LIABILITY OF CONTRACTING TUBERCULOSIS IN VISITING RESORTS FREQUENTED BY PATIENTS AFFECTED WITH PULMONARY TUBERCULOSIS THAN ELSEWHERE?*

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More than two decades have passed since Robert Koch discovered to the world the causal relation of the tubercle bacillus to pulmonary and other forms of tuberculosis. During these years the investigations of an ever alert medical profession have added much to our knowledge of the nature, prevention, and treatment of the disease; yet the practical fact remains that mistakes have been made, false postulates promulgated, and advances made in certain directions from which intelligent scientific study demands retreat—a state of conditions not at all surprising nor discouraging to those of us who are more interested in discovering truth than in defending untenable positions because assumed primarily by those having authority, and to-day regarded as demonstrated facts by the majority of medical men, and as fondly cherished by the masses of educated laymen.

Every practitioner of medicine much in contact with a cosmopolitan clientèle is profoundly impressed with the extent of the tuberculophobia with which the masses of the people have been indoctrinated, and the popularity of a health resort frequented by tuberculous patients, like the Adirondacks, or the mountains of Colorado or of western North Carolina, or the resorts of lower altitudes, like Aiken, or Thomasville, or Southern Pines, is subjected to attacks which when one hears them he will unconsciously turn and ask, Is the popular dread of becoming infected with pulmonary tuberculosis from casual contact with a case of the disease only in part a groundless apprehension or does such extreme danger really exist?

Residing as I have in one of the resort towns of the Carolina mountains within a few miles of the well famed city of Asheville, in a climate where literally thousands of tuberculous patients have breathed anew the breath of a restored and lengthened life, and hearing daily from transient visitors such expressions as, "I did not dare stop over in Asheville overnight"; "I would not stay there under any consideration, for it would be taking chances with my life"; "My home physician, who is one of the best doctors in the country, told me to be very careful when I went to Asheville," or other similar extreme statements—naturally with a man who wishes to be professionally honest with himself and his patients, the question will come, Is it not time a note of whole-

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some warning was sounded to the profession relative to further teaching of extreme doctrines not warranted by the facts?

While I appreciate fully the fact that modern textbooks of medicine, pronunciamientos of boards of health, essay upon essay in all our journals from the pens of virile writers, tome upon tome of literature written about tuberculosis for the express purpose of enlightening the technically inexperienced public, all constantly and persistently, with few exceptions, continue to inculcate the doctrine of the extreme danger of tuberculous infection from casual contact with the patient with tuberculosis or his environment, yet I am fully convinced the pendulum has swung too far. Both doctors and laity have learned a part at least of the lesson in tuberculous prophylaxis "not wisely but too well." And when one sees and recognizes the pertinent facts that the extreme views upon this subject are not only seriously disturbing to the mental comfort of many people, but positively conflicting with the real facts, it is evidently time for those of us who are convinced differently to carefully inquire as to the real situation, and if an error has been made (by both physicians and laymen), let us hark back to the truth.

In the short and imperfect consideration which I propose giving this subject to-day, I shall only mention for your thoughtful consideration certain suggestions without attempting to present a complete or systematic study of the various phases of this most vital problem, making as a preliminary note the statement that, in my opinion, the prevalent fear lest our health resorts for tuberculosis become hotbeds of virulent infection for the healthy is entirely an erroneous one and unjustifiable on any scientific consideration of the subject, and further emphasizing the assertion that when the present wave of tuberculophobia shall have passed and the physicians, with the people whom they have mistaught, come to their senses again, these facts will be generally recognized.

The tubercle bacillus is a monomotile vegetable parasite devoid of capacity to reproduce itself outside the living body, and while a consumptive freely and indiscriminately expectorating, without regard to the lodgment of his sputum, will disseminate millions of bacilli every day in his environment, yet it may well be questioned if even indiscriminate expectorating (leaving aside certain other considerations) is as pregnant with dangerous infective possibilities as we have been taught and taught to believe in former years. While at the present time, I would not advise, or personally favor, any degree of relaxation of the very excellent restrictions which are thrown around the expectorating of tuberculous patients, or the eminently proper disinfection of their apartments, as is currently practised in our more enlightened health resorts, yet in the light of recent studies it cannot but be evident that the infective possibilities even here have been greatly magnified. It has been repeatedly shown of recent years that even when deposited in a fairly large mass of mucus the tubercle bacilli exposed to direct sunshine are destroyed in two hours' exposure, and in strong daylight only a few hours longer are requisite for their destruction. This

being the case, the tubercle bacilli which expectorated on the open ground are wafted away in the atmosphere while still vital are very few indeed. And if we should take the trouble to calculate a moment, and recalling the constant changing of the atmosphere, especially in our mountain resorts with their ever present breezes, and figure the cubic quantities of air in a street or any given open, out of doors space, and this constantly changing, we should naturally arrive at the conclusion that the liabilities of infection here were very small indeed.

The elaborate series of studies of Dr. Flick, Dr. Ravenel, and Dr. Landis, of the Phipps Institute, which were presented in detail during the recent ten days' session of the Pennsylvania Society for the Prevention of Tuberculosis, held only last month, are very instructive. Briefly, their investigations covered very complete studies of street dust from crowded city streets where many persons with pulmonary tuberculosis were known to pass daily, even hourly, without any restrictions whatever as to expectoration and such studies demonstrated an absence of active vital tubercle bacilli in such street sweepings. The tubercle bacillus is essentially a house plant, and tuberculosis is essentially a house disease; its exciting germ does not live, thrive, prosper, or enjoy any of the functions of life except in darkness, or at least the absence of good light, and in the presence of filth, or at least a lack of ample ventilation and thorough cleanliness.

The collective reports made in 1905 by Hüppe of all sanatoria for pulmonary tuberculosis in the German Empire and extending over a lengthy period of years, showed that out of 2,020 attendants, including physicians and personal attendants, as well, employed in these institutions, only eleven cases of tuberculosis developed. If the dangers of infection from close contact with the tuberculous cases were a great one, assuredly we should have a much larger proportion of the disease in those so closely associated, with exposure to contact, and to particles of sputum in coughing, instead of an actually lower rate of infection than in the community at large.

Gardiner, of Colorado Springs, in a recent paper emphasizes the fact that as a result of careful systematic search for cases of pulmonary tuberculosis developed at Colorado Springs among the local population, ranging from 15,000 to 30,000 during the twenty years period covered by the investigation, only twenty cases, or one a year, could be found as having developed there among the natives or visitors, a truly remarkable state of affairs when we recall the fact that there must of necessity be a very considerable element of the permanent population of the city made up of persons who were at one time of their lives the subjects of the disease. Baldwin has shown most conclusively that the danger from infection at Saranac Lake is very small, a study of the records of the place for fifteen years ending in 1905 showing only twenty cases as having occurred among the residents in that time. It is more than likely that most towns of similar size in the country would have shown as many or more non-imported cases in this period of time, towns which

are not frequented annually by thousands of tuberculous patients. Dr. Holland, of San Moritz, states in 1905 that he "is positive there has been no increase in the development of tuberculosis among the native population due to the infection from the large crowd of patients who throng that popular European resort." The official registration of deaths in the Davos Platz district, from 1876 to 1900, exhibited the interesting fact that during the twenty-five years the total number of cases of pulmonary tuberculosis among the native population of Davos Platz was thirty-eight, and this, too, in a total population of nearly 10,000. Dr. F. M. Sandwith, of Cairo, Egypt, reports as follows: "There is no special evidence that tuberculous invalids sent to Egypt have become sources of infection to the native residents."

Coming nearer home to the mountain resort section of western North Carolina, the reports made to me personally from leading specialists in tuberculous affections in Asheville tend to establish the same state of facts. The official records of Asheville (quoted to me by Dr. Burroughs) "show the deaths from pulmonary tuberculosis among the native population for many years past to be less than one fourth of one per cent." And he confidently adds: "I am convinced the safest place for security against tuberculous infection is a resort of this kind where the proper sanitary restrictions against contracting tuberculosis are enforced." Dr. von Ruck, in a sanatorium experience of twenty years, says he "has never seen a single case of tuberculous infection occurring from personal contact with patients on the part of employees or physicians," and further adds his belief "that strangers going into a city or remaining there any length of time, although there may be tuberculous patients there, have in fact nothing to fear." Additional confirmatory testimony I have from Dr. Minor, Dr. Ambler, and Dr. Cotton, and Dr. Weaver (himself a native), advises me that "Asheville has a lower death rate from tuberculosis now than thirty years ago, and the actual proportion of cases of tuberculosis among the native residents is less than it is in the rural districts of the county."

Numerous other letters are before me as I write, from other gentlemen of large practical experience in resorts frequented by patients with pulmonary tuberculosis, and in the main the general tenor of opinions is to the effect that under ordinary conditions there is absolutely no danger to healthy natives or visitors from the presence of cases afflicted with tuberculosis, that the possible dangers of such contact had been greatly overestimated by both profession and laity, and without exception no one writing had ever known of a person becoming infected from such contact.

Now, possible objection may be made to this form of investigation by securing personal opinions on the ground that individual prejudices in favor of local interests may have exerted an influence in shaping some of the expressions; or as Cornet some years since bluntly expressed it: "Natives in admitting cases of infection imperil their most precious interests." It will be remembered, however, in this connection that men like

those quoted have opportunities for the making of careful observations relative to such a question which would naturally give great weight to the value of their studies; I of course admit, in view of the prevalent belief in the virulency of the infection of pulmonary tuberculosis, that it is a little remarkable that from leading health resorts in both continents, frequented by thousands of patients suffering with consumption, the reports should so uniformly show that infection to people constantly exposed to such infection should be so extremely limited. Certainly, it is a fact that should be heralded to the professional world that the average ratio of cases of pulmonary tuberculosis to population at large is decidedly less in the popular health resorts for pulmonary tuberculosis where thousands have been thronging annually for a generation now than in the average city or town, where there are considered to be relatively few cases of the disease, and where people rarely even think of there being any danger of a tuberculous infection. From a consideration of these opinions I believe we are amply warranted in asserting a belief that probably the safest place from a possible tuberculous infection is to be found at a first class health resort, frequented by tuberculous patients, but where the residents are fully alive to the modern principles of preventing disease by rational living, proper ventilation, and correct hygienic methods.

Now, admitting the bona fide existence of a specific infectivity of the tubercle bacillus to produce tuberculosis (and in this I take it we absolutely all cannot but agree), it is pertinent to inquire why persons residing permanently in or visiting health resorts frequented by the tuberculous are so little liable to infection. In all probability there are several causative factors at work. Primarily it should be borne in mind that infection with tubercle bacillus occurs most often at a period really far remote from the development of symptoms which command the attention of either patient or physician. Tuberculosis is tediously slow in its development, and the tendency of recent thought is to view it as taking place in the majority of instances in early childhood, probably though the lymphatic tissues of the pharynx. Barring these individuals who furnish so great a proportion of the pulmonary tuberculosis cases of our great cities, living under extremely unsanitary environment (the so called submerged tenth), infection in an adult is unquestionably the exception. Ofttimes the cases which may at first seem to have been instances of recent infection will on a more critical study prove to have been in patients in whom the tubercle bacilli since early childhood have been slowly working their way from tonsil to lymphatic, with little disturbance of the health equilibrium, until the influence of some vitality depressing factor determines the sudden manifestation of tuberculous activity, exhibited throughout the whole physical organism. Such cases are too often erroneously classed as reinfections from without the body, when in truth it has been merely a latent infection called into activity.

A place which is enabled to establish a reputa-

tion as a health resort for the tuberculous is primarily and essentially a place so situated as to possess to a maximum degree those qualities which are regarded as conducive to health and longevity, and in only a minimum degree the influences which undermine or lower vitality. In other words, health resorts for tuberculosis are as a rule situated where there is marked dryness of the soil, with high, or moderately high, altitudes, and in a relatively dry climate, or where there is to be found the maximum comparative amount of sunshine associated with the minimum average atmospheric humidity. These conditions afford an environment intrinsically inimical to the life of the tubercle bacillus; hence the ordinary individual, be he resident or visitor, naturally responds to the invigorating and tonic influence of the climate and an improved metabolism renders him less liable to infection in the health resort than he would be in climates of the average sunshine and humidity.

Then, too, there is naturally and unavoidably at the health resort a far greater degree of consideration paid by all classes to health laws; there are better hygienic regulations in force, indoor occupations, both as regards work and play, are relatively far less in evidence than elsewhere, there is an absence of the overcrowding, overheating with deficient ventilation, which latter defect I have noted in every large city I have ever visited (and it has, it seemed to me, been by no means confined to the domiciles of the submerged tenth). The attention of the people at large has been more frequently and forcefully directed to the importance of open houses and fresh air, and a relatively far higher standard of both public and private sanitation exists in the modern health resort than in the average prosperous city of to-day. In our health resorts for tuberculosis the average housekeeper or hotel keeper actually often becomes more proficient in sanitary science for practical purposes than some practitioners of medicine I have known.

That such a state of improved public and private sentiment and practice should exist is but to be expected, for with progressive doctors and qualified nurses constantly keeping before the citizens of the community the necessity and advantages from a health point of view of extreme cleanliness, thorough and frequent disinfection, sunlight, fresh air, good wholesome food, reasonable hours for labor with ample time for recreation, into this type of social atmosphere the resort visitor is initiated and he usually readily enough responds to the subtle influences of an environment where the daily talk is not of crops, the price of cotton or other commodities or stocks and mortgage bonds, or interest rates, or profit sharing, or manufacturing, or political, or commercial enterprises; but, on the other hand, the uppermost theme impresses him as being health and how best to promote it, of good appetites with improved digestions, of rides, drives, walks, recreations, pleasant diversions, recuperations, physical improvements, free breathing, etc. As a matter of fact I have often questioned if the average transient at a health resort for tuberculous patients did not, after hearing so much talk along

hygienic and sanitary lines, especially if he was a superficial observer and quick to arrive at conclusions, form the opinion that so much consideration on the part of the majority of individuals he came in contact with, from his liveryman up to his doctor, really showed dread of infection on the part of the people. In this respect it is possible at times, the great attention these vitally important matters receive in the modern health resort is undoubtedly ascribed to an improper motif, when the real facts are that the doctors have infected the masses of the people with a degree of enthusiasm upon these subjects.

Briefly summarizing, permit me to present the following conclusions:

Nontuberculous individuals necessarily incur no danger of infection with tuberculosis in visiting or residing at modern health resorts frequented by patients with pulmonary tuberculosis.

There is less danger of contracting pulmonary tuberculosis in a well regulated modern health resort than elsewhere.

Health resorts for tuberculosis are almost invariably places where it has been originally noted that the average of deaths from tuberculosis among the natives was remarkably small.

The climatic and other local conditions which originally permitted so small a development of tuberculosis among the natives continues to render them relatively (not absolutely) immune, and as well to beneficially impress the visitors to such resort.

Considered in the light of most recent scientific knowledge, it is doubtful if the infective dangers of street expectoration are so great as we have previously believed.

The average greater degree of sanitary knowledge and practice prevailing to an extent among all classes at a modern health resort is also highly conducive to the physical improvement and gain shown by the immense majority of visitors to our mountain resorts.

The most careful attention to sputum indoors, thorough ventilation, and open air life so much in vogue at the modern health resort for tuberculosis render them safer and should be continued.

TUBERCULOSIS OF THE KIDNEY.*

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Before proceeding to read the paper I should like to present to the association the history of a case of tuberculosis of one kidney and chronic parenchymatous nephritis of the other.

The patient was sent to me by Dr. Bennett for diagnosis a year ago. He was thirty-eight years of age and had a good family history. He had been married nineteen years and had six children. Nine years previously a stone was removed from the bladder by litholapaxy. He had been perfectly well until about a year before consulting me. Then he noticed the

* Read before the Brooklyn Medical Association, January 13, 1906.

symptom of frequent urination at night, getting up every hour to pass water. Through the day he could hold his water four or five hours. The urine is sometimes very turbid, and at other times only slightly so. He also complained of headaches on the top of the head every two or three days.

On examination the findings were as follows: Eyes examined by Dr. Jamieson: Hypermetropic astigmatism in the left eye with slight evidences of neuroretinitis, due probably to some general dyscrasia.

Genitourinary organs: Per rectum. Prostate and vesicles normal. Cystoscopy: Bladder healthy. Right ureter catheterized, and urine, on inspection, found to be filled with pus. Left ureter catheterized and urine appeared perfectly clear. Examination of the urine by Dr. Murray, of the Hoagland Laboratory: The urine from the right kidney showed pus cells and tubercle bacilli, while the urine from the left kidney contained only two grains of urea to the ounce. Albumin 21 per cent. by volume. The microscope showed a moderate number of granular, hyaline, and epithelial casts, more leucocytes than normal, and a few uric acid crystals.

From these findings the diagnosis was established as follows: Right kidney, tuberculous pyelitis. Left kidney, chronic parenchymatous nephritis.

I considered that the case was inoperable and could only recommend palliative measures, such as an out of door life in a suitable climate, and cod liver oil, hexamethylenamine (commonly known as urotropin) and the free use of spring waters internally.

With these brief remarks I beg to present a more detailed consideration of the subject in a paper on renal tuberculosis, considered in all its aspects.

Renal tuberculosis was formerly supposed to originate invariably in the bladder and prostate and to ascend through the ureters to the kidney; but it is now known that the tubercle bacilli are carried through the blood circulation and deposited in the kidney, thus causing a primary infection of the organ. The bladder is frequently affected secondarily by the bacilli passing with the urine from the kidney or it may remain entirely unaffected. An ascending infection of the kidney from a tuberculous bladder is an occurrence of great rarity.

PATHOLOGICAL ANATOMY.—The process begins with the deposit of numerous isolated tuberculous nodules in the kidney. These rapidly coalesce, the tissue breaks down and cavities filled with pus or cheesy debris are formed. Alongside of these cavities in the kidney parenchyma, numerous recent or cheesy tuberculous deposits occur which are seen as small nodules on the surface of the organ. After a time the neighboring structures become affected, the proper and fatty capsule of the kidney is thickened by the formation of cicatricial tissue or perinephritic abscess may form. The ureters also become affected in a case of long standing tuberculosis of the kidney. The process in the ureters may be a simple inflammation, in which case the walls become thickened and its canal may be converted into a solid string and agglutinated to the surrounding parts. If the process is tuberculous, ulcerations and nodules form upon the ureteral mucous membrane.

The bladder nearly always becomes infected with the tubercle bacilli as they descend from the kidney in the urine, although in exceptional cases it may escape entirely or become the seat of a simple non-tuberculous inflammation.

Tuberculosis of the kidney begins on one side and remains unilateral until after an uncertain length of time has elapsed when the other kidney becomes infected through the blood. The fact that only one kidney is attacked at first and the other one not until some time later has a most important relation to the treatment of such cases. The second kidney instead of being infected with tuberculosis may also become the seat of amyloid degeneration or chronic nephritis.

SYMPTOMS AND DIAGNOSIS.—Renal tuberculosis is most apt to occur in young persons of from twenty to thirty years of age and a family history of tuberculosis can often be elicited.

The disease begins very insidiously. A mild febrile state with loss of appetite and general malaise is noticed. The most characteristic symptom is frequent urination; water being passed every hour or two by night as well as by day. When the tuberculous nodules have not broken into the pelvis of the kidney or if the ureter is obliterated the urine can remain perfectly clear and give rise to mistakes, but usually the urine has a mild opacity like milk tinted water from its admixture with pus. Occasionally, severe pain in the loins and down the side accompanied by nausea and vomiting is noted, so that renal calculus is suspected. If the bladder is involved the patient suffers from the typical bladder symptoms of dysuria and tenesmus, but these symptoms often arise as pure reflexes from the pelvis of the kidney.

As the diagnosis in these cases is always very difficult to make, it is necessary to call in all the means of assistance at our command.

A careful history should be taken and an examination made for tuberculous deposits in the lymphatic glands, and the bones, lungs and the epididymis and prostate and seminal vesicles should be carefully searched for nodules. The fact that an uncured gonorrhœa may also be the basis of a tuberculosis should always be remembered.

On palpation over the renal region, a painful enlargement of the kidney may be detected, but not invariably.

Suspicion of kidney tuberculosis should always be aroused by the presence of pus in the urine for which no cause can be found and when the pyuria does not clear up under the appropriate treatment for cystitis, but persists, it usually signifies that the disease is not in the bladder but in the kidney.

A microscopical examination of a drop of sediment from the urine should be made and when every field is found to be made up of few or many leucocytes and particularly if microorganisms are conspicuously absent, the suspicion of tuberculosis is increased.

The specimen should next be stained and examined for the tubercle bacillus, and care should be taken to differentiate it from the smegma bacillus, which it closely resembles. The tubercle bacillus is not easily found, but in from seventy to eighty per cent. of all cases careful and repeated examinations will disclose them. When after thorough search the tubercle bacilli have not been found, a positive diagnosis can usually be made by making an injection of the urinary sediment into the peritoneal cavity of a guinea pig. Three weeks later the pig is killed and an autopsy made and in positive

cases an acute miliary tuberculosis of the guinea pig is found.

Cystoscopy and catheterism of the ureters afford great help in making a diagnosis. When the urine is loaded with pus which does not clear up under treatment and the cystoscope shows the bladder to be fairly normal, the conclusion is naturally drawn that the pus comes from the kidney, and on viewing the ureteral opening a stream of turbid urine may often be seen issuing from one or both uretral orifices.

Characteristic changes are often observed in the bladder, about the mouths of the ureters; the ureter papillæ are congested and studded with ulcerations or hæmorrhages. Willy Meyer describes the appearance of an œdematous pouting or prolapse of the mucous membrane with more or less erosive and hyperæmic lesion on part of its periphery, as pathognomonic of kidney tuberculosis.

It is absolutely essential before advising any line of treatment to know the condition of the other kidney, and every possible means should be used to determine its functional capacity before operation is considered. In order to find the relative secreting capacity of each kidney, the ureters should be first catheterized and the separate urines examined.

There are at present three methods in use for testing the urine secreted by each kidney, which are briefly described as follows:

1. *Comparison of urea secreted by each kidney.*—It has been proved by experiment that healthy kidneys secrete exactly the same amount of urea during and at the same time and if one kidney is diseased the excretion of that organ is diminished. A full quantity of urea would thus show a normal kidney while a marked diminution in the urea from the other kidney would show disease of that organ. The urea test commends itself because it is accurate and can be easily carried out with a simple testing apparatus. Roosing prefers it to all other methods.

2. *The phlorrhizin test* is based on the fact that phlorrhizin causes an activity of the kidney cells which enables them to withdraw sugar from the blood, and on examining the urine we find glucose.

When the secreting power of the kidney is at its highest, a large amount of sugar will be produced and when the secreting function is impaired, less sugar will be eliminated. Phlorrhizin in 0.1 grain doses is injected hypodermically and the elimination of sugar begins from 15 to 30 minutes later. The ureters are then catheterized and the urine examined. Healthy kidneys generally produce about one per cent. of sugar and over; while in defective kidneys the quantity of sugar eliminated amounts to a small fraction of one per cent. and in greatest disturbances of the renal function no elimination of sugar can be demonstrated.

3. *Cryoscopy* was first suggested as a means for determining the functional capacity of the kidney by Koranyi in 1893. As first used it consisted in freezing a quantity of the blood and a quantity of the urine from the same patient and comparing their respective freezing points. The test is based upon the physical law that the freezing point of a fluid is lowered in proportion to the concentration of the solution, i. e., when the solution contains more salts the freezing point is lowered. The normal freezing point of the blood is constantly from 0.56 to 0.58.

Any deviation from this point, either higher or lower, shows that the kidneys are not secreting enough and the salts are retained in the blood.

Various conditions besides disease of the kidneys alter the freezing point of the blood. 1. Absorption of toxins from a malignant growth often elevates the freezing point. 2. Hydræmia causes a lowering of the freezing point.

We now know that malignant tumors and uræmia interfere with the test of cryoscopy of the blood and falsify the readings. Casper and Israel no longer depend on the freezing point of the blood, but have abandoned it; while Koranyi and Kümmell still make use of it. Casper and Israel also find that although a kidney may be diseased, it may nevertheless functionate sufficiently to support life after a nephrectomy of the other side.

In making the test of cryoscopy the general practice at the present time is to collect the urines by catheterism of the ureters, from the right and left kidneys at the same time, and compare their freezing points. As the specific gravity of urine continually varies, there is no *constant* freezing point for it, and the test is therefore based upon the following facts: (A) Many molecules in the urine show a good excretion. (B) A low freezing point shows that the kidneys are excreting well. (C) If both kidneys are diseased there is diminished secretion and the freezing point of both urines is high. (D) If one kidney is diseased, the freezing point is high on the diseased side and low on the sound side.

In order to carry out the described methods it is necessary to have the separate urines drawn with a ureteral catheter from the right and left kidneys at the same time, as these tests are all based on a comparison between the separated urines.

The following scheme of examination was used in Casper's clinic in cases of suspected pyelitis: (A) Injection of phlorrhizin hypodermically, a strength 1. to 100. 1 c.c. of the solution was injected. 1. Bladder irrigated and filled with 300 c.c. of mercuric oxycyanate, 1-5000. 2. Double sided ureteral catheterism. 3. The first few drops of urine thrown away. 4. Collect 3 c.c. of urine for microscopical examination. (B) Examination for sugar. (C) As soon as sugar appears collect 6 c.c. of urine from each side, 0.5 c.c. of urine for determination of sugar with Lohnstein's sacchorometer, the remainder for cryoscopy and determination of presence of albumin and quantity of urea.

Besides requiring a well equipped laboratory with a considerable knowledge of the laboratory technique, obtaining the separate urines by catheterism of the ureters demands a high order of operative skill in the use of the catheterizing cystoscope, which can only be obtained after months of constant practice.

For these reasons the employment of these methods will be necessarily limited to specialists, and before any kidney operation these tests made by comparing the excretion of urea and sugar after phlorrhizin and cryoscopy should be made.

It is in this way alone that we can avoid the fatal error of removing a kidney, which although damaged, may be the only one left to the patient.

THE PROGNOSIS depends on whether both kidneys are diseased, or if one alone is affected. If one kidney is diseased, it should be removed at once before

involvement of the other kidney or bladder. In that case the prognosis is good and the patient's condition begins to improve immediately after extirpation of the diseased organ. In double sided disease the outlook is very grave.

The course of a case which is not operated upon is generally slow. It lasts a considerable time, often several years, before the parenchyma is so much destroyed that the secreting function is badly impaired. Usually metastatic deposits with general tuberculosis occurs and when this takes place the fatal issue is rapidly reached.

In the course of kidney tuberculosis the perinephritic tissue becomes involved, suppuration takes place and peri renal abscess forms. The symptoms are acute and consist in painful tumor in the kidney region with chills and fever and great prostration.

TREATMENT.—When both kidneys are affected with tuberculosis or one is tuberculous and the other badly disorganized from chronic Bright's or amyloid degeneration, the treatment can only be directed to the palliation of symptoms and consists in forced nutrition, irrigation of the bladder, and internally hexamethylenamine (urotropin) with narcotics to relieve pain.

In the cases where pyonephrosis forms and as a result of the accumulation of pus in the kidney, the patient suffers from severe sepsis from absorption and it is evident that death will occur unless the kidney is opened and drained, a nephrotomy should be done and the pus evacuated.

If the other kidney is diseased complete extirpation or nephrectomy is manifestly impossible, and the operation of nephrotomy is undertaken merely as a palliative measure. The wound should be left open and allowed to heal by granulation and usually a permanent fistula remains. The evacuation of the pus, however, relieves the patient of his urgent symptoms and prolongs his life.

When, however, one kidney alone is affected with tuberculosis and the patient comes under observation early and before the second kidney is involved, it is advisable to remove at once and completely the diseased organ.

Even a moderate bladder or lung tuberculosis, if not too far advanced, is not a contraindication for operation; the bladder heals, or at least improves when the source from which the tuberculous material which is poured into it is removed.

It has sometimes been the practice in past years to wait for a spontaneous healing of renal tuberculosis to take place, and while this sometimes happens in rare instances, it is so unusual that it cannot be depended upon, and in most cases which are left alone the process extends to the other kidney and to other organs.

Perinephritic abscess forming as a result of tuberculous kidney calls for surgical treatment at once. The pus must be evacuated by a free incision and the treatment of the kidney itself depends upon the condition of the other one.

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Tracheotomy.—The best site for an urgent operation is through the cricothyroid membrane. To hold the opening apart a couple of hair pins bent at the end may be used as retractors.—*American Journal of Surgery.*

THE OPERATIVE TREATMENT OF FRACTURES OF THE PATELLA.*

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The treatment of fractures will always remain a subject of great importance to general practitioners as well as to surgeons, and largely because of the responsibility which attaches to their treatment. Therefore, I have no apology to offer for bringing before this society the important subject of the treatment of fractures of the patella. This fracture has always been one of the most difficult to treat and one which has given us the poorest results. This is due entirely to the difficulty, in most instances the impossibility, of obtaining thorough coaptation of the fragments. This difficulty arises from two factors, first the fact that there is attached to one of the fragments a powerful group of muscles which, unless properly controlled, constantly tends to separate the fragments, and second, to the interposition of ligamentous or tendonous structures between the fractured surfaces. The latter of these interfering elements is by far the most important because it is impossible to overcome it without an operative interference that carries with it some risk. It shall be my object to show that this risk can be taken with impunity, provided the operative interference is carried out in an absolutely aseptic manner. Unless this latter condition pertains the risk is undoubtedly very great and should never be encountered.

At one time it was thought that only in fractures due to direct force were the fragments of the patella covered by the torn ligament, but now that these fractures are being operated upon more frequently we find that the ligamentous structures are interposed between the fragments in practically all cases, whether the fracture results from direct force or from muscular action. In every case I have operated upon I have found the torn ligamentous tissue adherent to one or the other or both of the fragments. It is the upper fragment which is most frequently covered in this way. This condition I have met with, both in the early operations and in those which have followed unsuccessful treatment with the splint. It is undoubtedly this interference with absolute bony coaptation of fragments that has rendered the ordinary method of treatment on the splint and in casts unsuccessful. If it could be eliminated I believe there would be little cause for operative interference. By rubbing the two fragments together it may be eliminated to some extent, but in many instances I have had to use the periosteal elevator or some other similar instrument for the purpose of separating the fibrous tissue from the fractured surfaces.

It has recently been shown that in operating upon these fractures it is even more important to suture the torn lateral ligaments than to suture the patella itself. Where these ligaments are ruptured, and they are ruptured in practically all of the cases, whether the fracture be the result of direct violence or muscu-

* Read before the Philadelphia County Medical Society.

lar action, their torn edges will be found to be separated from one half to one inch. The difficulty of approximating these torn structures by any method of splint or other dressing can readily be appreciated. Still another feature that renders mechanical coaptation uncertain and difficult is the occurrence of multiple fracture. With so small a bone broken into more than two fragments close approximation is most uncertain. By the operative method of treatment such fragments can easily be brought into close relation.

The tear of the lateral ligaments is always accompanied by the effusion of a large quantity of blood which fills the joint to a degree that frequently renders even an imperfect coaptation impossible until absorption has taken place. This absorption, unless it is prompt, results in adhesions which, if not prevented by massage and early passive motion, are a potent factor in limiting the subsequent movements of the joint.

The methods of operating in fractures of the patella are innumerable and range from subcuticular sutures of various types to the complete exposure of the fractured bone and torn ligaments. It must be remembered that the torn ligamentous structures are of as much, if not more, importance, when repair is considered, than the fractured bone itself. There are certain methods of treatment which may be classified as intermediate, that is, between the expectant, nonoperative, or splint method and the operative method. I refer to the use of Malgaigne's hooks, the passage of needles transversely through the quadriceps extensor tendon and the ligamentum patellæ, the fragments being drawn together by traction on the two needles, and other methods of similar principle. All these plans of treatment have had their day and have served to lead to the later and better procedures. The various forms of subcutaneous sutures which have been tried are all open to the same objection, viz., the danger of infection, and possess none of the chief advantages of the open method. It is nearly impossible to be sure that these subcutaneous sutures do not enter the joint itself, and if they do the chance of infection is, I believe, greater than where the open method is pursued. Stimson's experience illustrates this point very well. Between the years 1889 and 1892 he employed subcutaneous suture in about forty cases: he had two infections which were followed by stiff joints. Between 1892 and 1905 he operated upon about two hundred cases by the open method and had but one slight suppuration which produced no subsequent difficulty. All the patients of the latter series, he states, have useful joints. The open method of treatment may be divided into three types, that in which the bone alone is sutured, that in which the ligamentous tissue alone is sutured, and that in which both are sutured. Experience has shown that suture of the bone alone is not to be employed. The choice lies then between the second and third types of operation, and the tendency of most surgeons lately has been to simply suture the lateral ligaments and the fibrous tissue over the patella, and not to penetrate the bone at all. Blake has advocated and practiced simple suture of the lateral ligaments, and has obtained good results. In all but two cases I have sutured the bone as well as the torn tissues about it, but the results were

practically as good in the two cases where the bone suture was omitted.

The time at which the operation should be done is a matter about which surgeons have differed. Blake and others have advised waiting a few days until the local acute symptoms have somewhat subsided. I am not sure that this is the best plan and will be inclined in the future to operate as soon after the injury as possible. In my last case, done about four weeks ago, I operated within a few hours after the injury. If the operation is not done at once measures should be employed to prevent the effusion, or to cause its prompt absorption if it has already taken place. Nothing accomplishes this so well as compression, either by tight bandage, elastic bandage or sponge pressure. Personally, I like to apply a tight muslin bandage to the joint and place over this one or two icebags.

The incision employed in all the cases shown tonight was either a slightly curved transverse incision or a U shaped incision. The incision should pass across the knee a little below the line of fracture in order to prevent adhesion of the skin and superficial tissues to the line of fracture. If the skin incision is immediately over the fracture it is apt to become adherent, and in case of refracture the skin will nearly invariably tear across, rendering the new fracture a compound and, not infrequently, an infected one. The transverse incision gives a perfect exposure of the torn lateral ligaments, such as is very difficult with the straight incision. In dissecting out distended prepatellar bursæ this incision is far superior to a straight one, as it enables the operator to dissect out easily every ramification of the bursa.

When the incision is made and the joint opened, it should be acutely flexed and all free blood and blood clot carefully removed with forceps or with sponges. Some surgeons recommend thorough irrigation of the joint with hot salt solution, and I have employed this where there has been difficulty in getting rid of the clots. In many of the cases, however, it is unnecessary. The least handling and manipulation of the injured parts and the joint the better, in fact the necessary manipulation of the structures should be done in the simplest and most delicate manner. Rough handling greatly increases the possibility of infection. It has been my experience that in every case the upper fragment at least has been covered by fibrous tissue which should be carefully lifted off with an elevator or some similar instrument. This fringe of tissue should be carefully sutured to the corresponding edge covering the lower fragment.

The sutures should be of an absorbable material and there is nothing better than chromicized catgut. There is no longer any reason or excuse for employing silver wire in the treatment of this fracture. Absorbable sutures keep the fractured surfaces together for a sufficient length of time for good union to occur, and if it does not occur in this time no silver wire suture is going to add any additional strength, and it does undoubtedly give subsequent trouble in a certain number of cases. It is not necessary to use very large gut. Personally, I employ a double thread of a smaller size rather than a single large strand. If the bone itself is to be sutured the opening should be made from the outer through to the fractured surface, but should not penetrate the

articular surface of the bone. It is only necessary to introduce one or two of these sutures. The lateral ligaments should next be sutured, and then the fibrous tissue over the bone. Care should be taken that the sutures are not tied too tight, as a tight suture always renders tissues more prone to infection. Having seen the satisfactory results obtained in the two cases where I did not put a suture through the patella itself I think in the future I will eliminate this part of the operation and suture the lateral ligaments and fibrous tissues only. The skin wound should be closed with silkworm gut sutures and no drainage employed. In some of my earlier cases I used a superficial gauze drain at each extremity of the incision, but I am now convinced that this is unnecessary, and in my late cases have not employed it.

The leg may be either dressed upon a posterior splint or put immediately into a cast. I always employ the splint. An important feature in the after treatment of these cases, whether the leg is dressed upon a splint or put in a cast, is the elevation of the leg for the purpose of relaxing the quadriceps extensor muscle. Where the leg is thoroughly elevated it is impossible for the muscle to contract sufficiently to affect the fracture. The part should not be touched for a week, when the stitches are removed. After this very gentle massage and slight lateral movement of the patella may be employed. After three or four weeks the splint can be discarded while the patient is in bed and massage regularly employed. After six weeks there is no longer any necessity for the use of the splint excepting as a protection in case of a fall. Passive flexion of the leg can be begun after the fourth week. After eight or ten weeks no dressing whatever is necessary, but the patient should be cautioned to avoid a fall. Flexion of the leg should be encouraged at this time.

Aside from the advantages to be derived from a perfect coaptation of fragments the operative treatment offers the additional advantage of a much shorter convalescence with a much earlier return to work. Two of the latest and best works on fractures recommend that in the nonoperative treatment some form of splint should be worn from six to ten months, whereas after the operative treatment, it is stated, there is no necessity for any form of restraint after the third month.

In my own cases it has been discarded much earlier. The tendency in the treatment of all fractures of late years has been to discard the splint soon and to institute early and regular massage, with gentle passive movements, and the results have been correspondingly better. I have recently examined my last seven consecutive cases treated by the open method and all of them have perfect bony union, six have good function and the seventh gives every prospect of having it. It is now four weeks since his operation. Five of these patients were operated on at the Pennsylvania Hospital, one at the Polyclinic Hospital and one at the Bryn Mawr Hospital. There was no infection or other complications in any of them. In two of them, one a man of sixty-three and the other a woman, the flexion is not as complete as in the other cases. All of the patients have been able since operation to return to their usual avocations and have no difficulty. One of them is a paper hanger and continues to work at his trade without

any discomfort. Two of the patients were over sixty years of age, and the result, as you can see, could hardly be better. Skiagraphs have been made of a number of these patellæ after operation and a close coaptation of the bone demonstrated. Several of the cases have complete flexion of the leg.

Although I admit a certain amount of enthusiasm regarding the operative treatment, I cannot close without confessing that its application should only be undertaken in a well appointed operating room and by a surgeon who has, and whose assistants have, developed what may be called an aseptic habit. If suppuration should take place in the knee joint after an operation of this kind a stiff joint at least is apt to result, and loss of the leg and death have occurred. I think that when we learn to look upon this operation as we do upon abdominal operations, and perform it with the same care, its field of usefulness will greatly increase. Stimson, whose experience is probably as large as that of any other surgeon in this particular line of work, states that although he invariably practises the open method he is not prepared to teach it. It must be admitted also that when the nonoperative treatment is properly and carefully carried out there is practically no risk to limb or life and the ultimate results are more or less satisfactory. These results, however, do not compare with those obtained by the open method, and, as has been shown before, the period of convalescence by the nonoperative treatment is twice that of the operative method. Refracture occurs after both treatments, but is much more frequent in the cases not operated upon. Personally I should not hesitate a moment as to which method I should have employed in my own case.

332 SOUTH FIFTEENTH STREET.

DYSPEPSIA NERVOSA.

By M. GROSS, M. D.,

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Axioms.—1. In this affection we have to deal with a neurosis *sui generis*. 2. Neurasthenia and hysteria, inherited or acquired, are the foundation for this affection. 3. To it the stomach offers the *locus minoris resistentiæ*. 4. The specific structural changes in the vagosympathetic nerve plexus cause a functional discord, a disturbed regulation, which means a disturbance (a) in the normal performance of the gastric function; (b) in compensation, *i. e.*, the intermediary endeavor on the part of the various functions to compensate each other. 5. Of objective negative nature at first, functional derangements occur as secondary symptoms in the course of the disease, which points to a changed activity of the cellular elements and only rarely correspond to an anatomical lesion. 6. The intestine is always involved, although in a less pronounced manner. 7. Dyspepsias, which occur by way of reflex action, do not belong in this category; frequently they are purely sensory neuroses.

Historical.—The various and divergent opinions as to what does and does not constitute a neurosis turn upon the following points: (1) Is the symptom always the sign of an existing anatomical disturbance? (2) Should an anatomical disturbance always display manifest symptoms in its course?

Clinical observations at the bedside and the unequivocal pathological findings force these questions upon us, and simultaneously furnish a definite answer in the negative sense. At the present moment we are in a position to say that anatomical investigations are only of fundamental importance in so far as by them we may be able to gradually evolve a basis for a clinical cellular pathology. Up to that time we shall have to move on the unreliable ground of pure empiricism. "The pole of rest in the flight of manifestations must be found in the cell," which means that the determining factor in the origination and progress of the disease lies in the cell, the organ.

Disease implies a state of change. It is a growth and does not suddenly spring upon us, taking us by surprise like a thief at night. The disturbance in the cellular equilibrium is a manikin working changes and restitutions in a thousand different ways, before it becomes constant and manifests itself as disease. The very chapter of neurosis may at some later time serve as the field of action on which a constitutional pathology may develop.

Ætiology.—The affection may be caused by overwork, excitation, improper manner of living, sexual excesses, sorrow, and care. These neuroses seldom occur in advanced years; most frequently they are met with between the ages of twenty and forty, but the first symptoms may also show themselves already at an earlier period both before and during the development of puberty. They may also occur in apparently robust persons, who, however, on close examination exhibit pronounced nervous symptoms.

Nature of the Affection.—The normal gastric function of digestion is performed in a certain rhythmical manner. This rhythmical performance, however, is here more or less interfered with in consequence of a changed action on the part of the nerves which supply the stomach.

What relation is there between these nerves and the normal performance of the digestive function? Even when an appreciable time has elapsed after resection of the vagus below the diaphragm, the anatomical condition of the stomach may be found perfectly normal; nor does the resection of the vagus exercise any influence upon the semilunar parts of the sympathetic. Indeed, the stomach would functionate tolerably well without any nerve fibres or ganglia: it would secrete, resorb, and move. It possesses an automatic system such as is otherwise only attributed to nerves and ganglia, but the movement and secretion would take place with less regularity. We are, therefore, led to assume the presence of a specific unknown action of the living cell.

The action of the nerves consists not only in connecting the stomach with the other organs of the body, but also in regulating the cell action. They do so at the right time and with the right degree of force, bringing about exciting and impeding impulses in a certain rhythmical manner.

The operations of filtration and diffusion are likewise subjected to the regulating influence of the nerves, although here, too, we are impelled to assume a peculiar cell action of its own. In the same measure, therefore, as the quantity and quality of the centrifugal and centripetal impulses are changed, the objective manifestations of disturbed regulation become apparent.

The local findings are generally limited to an abnormal acidity curve and irregular motility. Rosenbach's investigations already disclosed the fact that the secretions here are not produced continually, but rather fitfully, irregularly, and not always in accord with the ingested nutriment. It is a kind of interrupted supply of hydrochloric acid, without that gradual increase and decrease which takes place under normal conditions.

Coordinately with the disturbance of secretion, motility also becomes irregular in the sense of increased peristalsis which on its part may form the cause of a diminished resorption.

It can, therefore, be well understood that a prolonged state of this condition may lead to certain anatomical changes in the wall of the stomach. In the majority of cases, however, the peptic and assimilating process is not greatly involved, which is proved by the striking restitution of the local process after the employment of adequate therapeutical measures.

The diminished resistance which I have stated to be necessary for these neuroses to involve the stomach, need not be caused by very profound processes of the stomach wall. The all sufficient cause may, as Engelmann and his disciples have demonstrated for the heart, lie in increased or impeded excitation of the secretory cells, as well as in increased or impeded excitation, contractility and conductivity of the muscular elements, or rather of those specific properties of the muscular element, through which an exciting effect is transmitted to neighboring as well as distant regions.

The Symptomatic Picture.—The centre of the symptomatic picture of dyspepsia nervosa is often shifted through the protean changes of the symptom complex which the affection in its totality undergoes. This deprives the observer of the examination of the organ with its changed nerve action.

Subjectively the complaints are so undecided, capricious, wavering, and changeable, that it is frequently difficult to unravel the actual condition. Complaints of hyperæsthesia, which are not always caused by hyperacidity, so called relative hyperæsthesia, changeable appetite, constipation alternating with diarrhœa, are varied by complaints of a general feeling of depression, sleeplessness, ill humor and great liability to fatigue. In the morning the patient complains of feeling ill and of pressure about the head. The pain, a regular occurrence, is rather diffuse, and while at times it has no connection with the ingestion of food, at other times it seems caused by it. Vomiting is often attributable to pyloric spasm. Sticker speaks of a hyperæsthesia, a diffuse sensitiveness to pressure in the gastric region which is distinctly demarkated by the outlines of the stomach.

Diagnosis.—The ætiological factors, the jumping and uncertain character of the affection, the changes which are often truly surprising, together with the inconstancy in the conduct of the secretion and motility, will have to be taken into consideration. The kaleidoscopic picture is rather complicated by the reaction which the digestive process exercises upon the nervous system, because the entire organism is involved through the gastric nerves by way of reflex activity, and reacts on the mechanical process with more or less violent manifestations.

Prognosis.—The prognosis as to restitution is favorable, in fact extremely favorable if the trouble has been recognized at an early stage, so that it is possible to rapidly remove the injurious influences which caused it. Protraction of the pathological condition invites frequent relapses, if only from the fact that energy and will power become increasingly impaired.

Therapy.—In deciding upon the therapy, it is necessary to remember, in the first place, that we are dealing with patients whose imagination and will power are influenced in undesirable directions. They will frequently regain their health, if that imagination is deflected into proper channels. To effect this, it is frequently necessary to resort to palpable demonstrations which convince patients that their functions are normal. It is a great mistake to arouse in patients the suspicion of an imaginary or exaggerated illness. Their skepticism should be dispelled. Nothing but a thorough and conscientious examination will invest the physician with that degree of positiveness which compels the patient's confidence. Often it will be necessary to remove patients to new surroundings, after which a slow and gradual reintroduction into their former sphere of activity is indicated. Patients should be forbidden to talk about their condition. Definite rules as to mode of living and diet should be given and preferably written down; in giving these, it is important to take well into consideration the patients' habits of life, national and social position.

Poultices are applied in hyperæsthesia with good results, also Priessnitz's and warm hip baths. Sleeplessness can be removed by warm baths followed by lukewarm douches, or by cold friction before going to bed. Other beneficial hydropathic measures are sponge baths and cold dressings. Sea baths are only borne well by robust individuals; the same refers to sea air.

Possible complications on the part of the intestine should also be considered. I have seen no marked success following electric treatment. General massage is a good adjuvant. As Rosenbach correctly observes, the patient should almost forcibly be put under constraint in order to bring him back to normal ways. Medicaments work more harm than good, and the excellent effect of completely withholding them is often surprising. Menthol valerianate on sugar relieves nausea. Cocaine 0.02 to 0.03 gramme, three times a day, relieves hyperæsthesia; so does bismuth. Arsenic and lecithin have yielded in my hands the best results, when administered subcutaneously in order to relieve depressed as well as excited conditions.

315 SECOND AVENUE.

A CASE OF WIDESPREAD INTRACEREBRAL SINUS THROMBOSIS.

By JAMES E. TALLEY, M. D.,

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CASE.—S. W., white, widow, forty-six years, was admitted to Dr. Musser's service at the Presbyterian Hospital on January 30, 1905. The parents had both died of apoplexy, otherwise the family history was negative.

The patient said that she had had rheumatism twenty years ago and again four years ago, but her statements

were somewhat hazy, on account of her general condition. There was no history of injury. Both the patient and her friends said that she had had constant headache for about two years, for which she had taken enormous quantities of various patent medicines, as well as medicines prescribed for her by physicians. The bottles and boxes of medicine brought into the hospital with the patient filled a good sized basket. Of late the headache had grown rapidly worse, and for the last ten days the patient had been somewhat nauseated and vomited several times. She had lost weight rapidly, had no appetite, and was constipated.

The examination showed an extremely emaciated woman. There was a tendency to bilateral exophthalmos, and the veins over her head and neck were remarkably prominent and tortuous. In fact, the veins all over the body were more prominent than usual. Her arteries were hard, the extremities cold. The upper area of cardiac dulness was at the third rib, the right apparently at the left border of the sternum. The apex was visible in the fifth interspace midclavicular line. There were no murmurs heard. The pulse was slow, but regular. Throughout the time in the hospital the pulse ranged from forty to sixty, but mostly below sixty; while the temperature ranged between ninety-six and ninety-nine, but usually subnormal. The examination of the lungs was negative. The abdomen was flat, and on palpation there was an indistinct mass felt in the right hypochondrium, which was dull to percussion and somewhat tender. The examination of the urine gave negative results. The pupillary reaction was normal. The knee jerks were slightly exaggerated, there was no clonus and no Kernig's sign. The blood count showed 6,400,000 erythrocytes, 11,000 leucocytes, and 105 per cent. of hæmoglobin. This polycythæmia was at least general on the surface, as the puncture was taken from the finger and not from the ear, the veins of the head and neck being so much more distended than elsewhere as to suggest a local cyanosis.

February 2nd. Dr. Shoemaker examined the eyes and reported as follows: The conjunctiva of both eyes are congested; pupils 2.5 mm.; media clear; disk margin somewhat blurred; veins large, full, and tortuous; no hæmorrhage, and no exudate. A second examination on February 8th showed on the right side marked injection of bulbar and palpebral conjunctiva. There was apparently some pain on pressure; disk swollen; the veins full and tortuous; no hæmorrhage, and no exudate, but the eye ground was that of an optic neuritis. The left eye showed no change since the last examination.

The ear examination, by Dr. Stauffer, February 6th, showed on the right side a very slight tenderness over the mastoid, increased by pressure, about one inch above and one inch posterior to the external auditory meatus; membrana tympani normal; ossicles limited in motion, no lesion; left ear, no tenderness; the membrana tympani much retracted; marked limitation in the movements of the ossicles; no discharge or lacerations.

The constant headache which was most severe in the occipital region gave way only on February 5th to a beginning coma. The neck was somewhat stiff and retracted, the mouth became drawn to the right, the left arm flaccid; knee jerks on both sides increased. Sensation to pain was first lost on the left side of the face, in the left arm, and to a less extent in the left leg. The coma continued to increase, and the patient died on the 9th of February.

The persistent headache and the extreme distention of the veins of the head and neck made one think that the condition was an intracerebral growth from the very first, which the condition of the eye grounds on further development tended to confirm.

The post mortem examination showed the following conditions: On opening the cranial cavity, the vessels of the meninges were found to be overfull, but not atheromatous. A partially organized thrombus was found extending from the torcular Herophili upward three or four inches into the superior longitudinal sinus, occluding both lateral sinuses for a short distance and extending downward into the occipital sinus. It was fully organized in the lower part of the superior longitudinal sinus. The brain itself was very much congested, and a hæmorrhage of two or three days' standing was found in the left lobe of the cerebellum. The heart was rather small, the liver, kidneys, and spleen all showed a high grade of cyanosis. Otherwise they were normal, with the exception of the liver which showed evidences of tight lacing; it was squeezed downward and grooved by the costal margin. The transverse colon was prolapsed to the brim of the pelvis. The original seat of infection was not discovered. The slight tenderness over the right mastoid was the only symptom or sign pointing to trouble in any of the sinuses of the skull.

The case is of special interest because of the extent of the thrombosis, the slowness of its development, as the agonizing headache which had begun two years before had showed practically no remission, but had increased of late; from the fact that no nidus of infection was found, and also from the fact that the ordinary symptoms of lateral sinus thrombosis were lacking. However, that no such infecting area existed would be hard to say in a case of this kind where the post mortem examination must stop short of mutilation. Unfortunately, so far as I have been able to find, no cultures were made from the sinus at the time of the post mortem examination.

5602 LANSDOWNE AVENUE.

ANTERIOR METATARSALGIA AND ITS TREATMENT.*

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At a recent final examination in one of our largest medical colleges, one of the questions in orthopædic surgery was: Define anterior metatarsalgia. Although most of the answers were correct, a few were otherwise. Among them were: Neuralgia of the posterior tibial nerve, a mistake of location—like-wise, a pain in the heel. The most facetious was: Pain in the foot on going to church. This probably had been all that the student could remember of one of the professor's stories, related at the lecture.

Definition: Anterior metatarsalgia, a term suggested by Dr. Poulsson, of Lyons, may be defined as the symptom of pain and discomfort about the anterior metatarsal arch, below and behind one or more toes.

History: Dr. T. G. Morton, of Philadelphia, first described this affection in 1876 as a peculiar spasmodic pain about the fourth toe, which he attributed to compression or pinching of the plantar nerves by the slipping over of the fifth metatarsal bone on the fourth, and advised excision of the head of the fourth metatarsal. Hence the name Morton's toes.

Since that time the subject has been studied and described by numerous observers and its real causes more carefully interpreted, so that excision is rarely practised to-day for this condition.

Anterior metatarsalgia is a condition fairly common in private practise, and although frequently chronic, is not difficult to treat successfully.

In the normal foot, the body weight is transferred from the tibia to the astragalus, to the os calcis behind and the heads of the metatarsal bones in front, at the ball of the foot. Most of this weight bearing is done by the third metatarsal head, balanced by muscles acting on the metatarsal bones of the big and little toes. Below the head of the third metatarsal the skin is slightly thickened. When the foot is not in use, the natural resiliency of its anterior portion causes it to assume the form of a transverse arch, the highest point of which is the head of the third metatarsal bone. The depression of this arch, or any factor that will cause it to become rigid, will bring about the neuralgic pain to be described. The pathogenesis of typical Morton's toes can be reproduced in the hand. On exerting pressure laterally on the metacarpal arch, we exaggerate the normal metacarpal concavity, and no pain is felt. But when one tries the same manœuvre with the fingers rigidly dorsiflexed, then lateral pressure causes pain at all the metacarpophalangeal articulations. The familiar trick of schoolboys which consists in squeezing the hand of an uninitiated scholar who has been instructed to twist one finger dorsally over the adjoining one, (thus overriding the fifth metacarpal over the fourth), is the exact counterpart of the result of overriding of the corresponding metatarsal bones in the foot, and the pinching, burning pain that accompanies it.

The most important ætiological factor of this condition is an improperly shaped shoe. Given a patient, usually a nervous female, who persists in introducing her foot into a modish high heeled, narrow toed shoe, usually somewhat cramped quarters. This patient's big and little toes will, during the breaking in process, be forced beyond and over the sole. The metatarsal bones of these toes will then assume a position higher than their fellows, instead of resting (as they normally should) in a lower horizontal plane. The three middle metatarsals being depressed, their articulations with their phalanges will be unduly pressed on by the sole of the shoe, and in typical cases the digital plantar nerves will be pinched between the abnormally rotated and squeezed metatarsal heads. Such a patient suffers from a typical attack of Morton's toes or anterior metatarsalgia, sooner or later. The first attack may come on during a long walk over an uneven road, or after standing for a long time. The patient has a sensation of something slipping or grating in the toe joint, immediately followed by a sudden cramp like or shooting pain in the ball of the foot, or a numbness and a tingling, an uncomfortable feeling behind the third or fourth toe, which increases in severity until it becomes unbearable. The pain radiates to the front of the toes. For relief, patient first removes one of its causes, which is the shoe. This, she tells us, she does at the first convenient resting place, occasionally in the street. She then grasps the toes and vigorously rubs and massages the front of the foot, moving the toes forcibly up

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and down; the pain soon lessens. The cramp recurs subsequently, missteps, long standing, or a hot pavement bringing on another attack, with greater or less frequency.

After such an attack the spot in the metatarsal arch is often found tender to the touch, occasionally a slight swelling from tenosynovitis or peri-arthritis is to be found on the under surface of the foot. An acutely sensitive callus appears, often at the same point. The metatarsal arch is usually more or less rigidly depressed. The impression of the foot in these cases, taken on a carbon sheet or on a piece of photographic paper, or by means of greasing the foot with petrolatum, will show in some cases an

imprint of more weight bearing surface than normal. There may be a history of a slight sprain or stubbing of one of the toes, with gradually increased frequency of attacks, as described.

The next common cause of anterior metatarsalgia is the weakening of the longitudinal arch of the foot, the deformity called weak foot, flat foot, or pes planus. When the arch drops, the big toe slips forward into the shoe, which suddenly becomes too short, and the patient complains of pain at the base of the big toe. He soon feels soreness in the ball of his foot, due to broadening of the front of the tarsus, caused by the persistent eversion with stretching of the small ligaments between the anterior

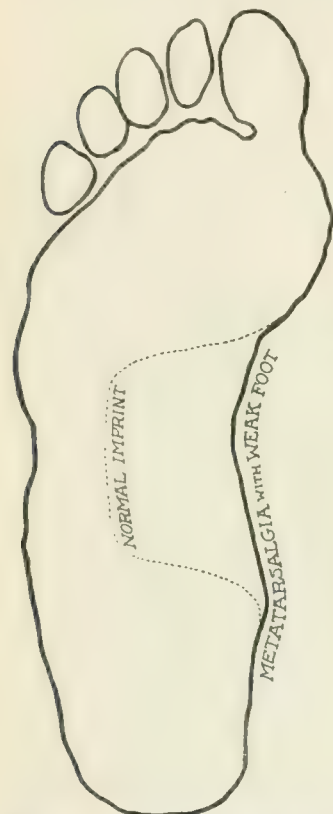


FIG. 1.—Outline impression case of anterior metatarsalgia taken with petrolatum; dotted line indicates imprint of a well arched foot, same size.

ends of the metatarsal bones. In anterior metatarsalgia from this cause the patient complains of a vague tired soreness in the ball of the foot, just behind the toes, which occurs after long walking or standing, and is made excruciating when walking over cobblestones or rough, uneven spots in the floor.

There will be found, on asking the patient to walk, that he pronates or throws out his feet somewhat, or he may have the stiff, slouchy gait of the more advanced flat foot, in which there is no spring, no elasticity, all the weight being borne on the heels. On asking patient to stand with his legs bared one again notices that a line drawn down the crest of the tibia, from the middle of the patella, and continued over the foot, passes to the inner side of the normal, which is a point between the second and third toes.

Other diagnostic peculiarities are a convexity under the internal malleolus, replacing the normal concavity, an increased weight bearing surface, seen only in marked cases when an imprint is taken. The metatarsal or transverse arch will perhaps be found stiffly depressed and tender in one or more points, usually the third and fourth metatarsophalangeal joints. A callus or a synovial swelling can be easily made out.

Metatarsal pain or discomfort due to deformity from short limb, with equinus from numerous causes, where the heel is raised and the weight is borne on the toes, is brought about by undue pressure on the ball of the foot, by spreading apart of the metatarsal bones, and by excessive formation of hard corns or callouses. But in the case of mild shortening of the tendo Achilles, we have a form of metatarsalgia due to a lack of normal spring in the progress of the step. This condition has been first described by Professor Shaffer in 1885 and called nondeforming club foot, talipes plantaris, and contracted foot. The short heel cord here forces the patient to overuse his extensor communis digitorum in walking in order to keep the toes from dragging on the ground. This dorsiflexes the toes and keeps them rigid in that position, straining the inferior ligaments of the toes, and again we have metatarsalgia in a high arched foot. Rarer causes of this neuralgia are incomplete subluxation of the phalanx of the third toe on its metatarsal, in which a patient suffered typical symptoms on the slightest misstep.

During the past year I have seen three cases of metatarsalgia from a cause not often met with. These were in cases of erythromelalgia, or Weir Mitchell's neuralgia, all of which were in the foot. Here there was a general tenderness in the usual area behind the toes, the whole foot was of a mottled magenta red and blue color, and in one case progressive venous thrombosis occurred.

Besides the causes mentioned a small proportion of cases are the remains of, or coincident with severe attacks of, rheumatism (chronic) or osteoarthritis. As predisposing causes may be mentioned diabetes, syphilis, local neuritis, gout, general debility, and a distinctly nervous temperament.

Treatment.—The first requisite is a proper shoe. The shoe must be of correct shape with a firm sole, generous breadth to avoid compression of the toes, a low heel, and a high arch to distribute some of the weight to the arch of the foot. The "rocker" sole makes matters worse. Adhesive zinc oxide plaster strapping, about three quarters of an inch wide, is wound around the metatarsal arch to support it, or even the entire metatarsus may be tightly strapped. A pad of piano felt one half by one and one half inches placed longitudinally just beneath the affected joint and fixed with adhesive plaster gives great comfort at once in most cases. The French writer mentioned advised half of a soft rubber ball instead of the pad. Thus the arch is supported, and overriding prevented temporarily. For permanent use, it has been found that a long metal plate moulded on a plaster of Paris cast is much more efficient in supporting the transverse arch. It can be extended so as to brace the longitudinal arch also. A piece of leather oval, with bevelled edges, may be fixed to the sole of the shoe at the proper point.

The patient is then instructed to daily exercise the muscles of the foot and toes, to make proper use of the big toe in walking, and to avoid throwing the foot out in doing so.

Daily massage and forcible manipulation of the toes go a long way in overcoming rigidity. The general health is built up, electricity, preferably Faradic, is employed, and applications for removal of corns are prescribed.

For flat foot, with metatarsalgia, plaster strapping of the foot in the adducted position has proved of great value as a temporary method of treatment. We further order the patient's sole raised one quarter

inch on the inner border of the shoe, prescribe Whitman's plates, made on moulded plaster casts, and instruct patient in exercises to strengthen the tibialis anticus and posticus. Pads, as described before, are applied to the metatarsal arch, or the flat foot plate is extended, to support the same in front.

For the non-deforming club foot, with its tender, clawed toes, Professor Shaffer's traction shoe is especially serviceable in all cases, and usually preferable to subcutaneous tenotomy of the tendo Achilles and contracted plantar fascia. This is the form of metatarsalgia in which cal-

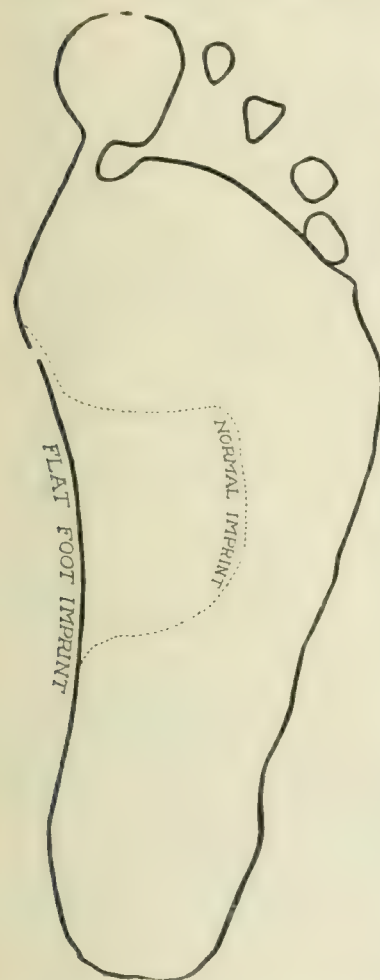


FIG. 2.—Flat foot; the patient, a dentist, complained of pain in the metatarsal region only.

louses are always troublesome and should be properly pared. A foot plate which equalizes the pressure on the sole may be used here to advantage. In the cases of erythromelalgia, marked benefit has followed swabbing of the entire foot with pure carbolic acid, followed directly by washing off with ordinary alcohol once a week.

The operation advised by Morton is as follows: The head of the fourth metatarsal is excised with bone forceps through a dorsal incision over the joint. In the majority of cases it is unnecessary.

If these few remarks have succeeded in indicating the ease with which anterior metatarsalgia can be relieved, I shall consider my efforts rewarded.

591 LEXINGTON AVENUE.

BILATERAL EMPYEMA IN CHILDREN.

By HENRY HEIMAN, M. D.,

NEW YORK,

ADJUNCT ATTENDING PHYSICIAN TO THE CHILDREN'S HOSPITAL, MOUNT SINAI HOSPITAL, NEW YORK.

While bilateral empyema is not very common, yet it occurs more frequently than we formerly supposed. Though my own experience during the past year, in having occasion to operate in three cases of bilateral empyema from the service of Dr. Koplik, may be somewhat unusual, yet in the *Berliner klinische Wochenschrift* of November 6, 1905, Dionys Hellin considers 114 cases of bilateral empyema which he has collected from the literature. In addition to these there have of course been many fatal cases which were never reported.

Of these 114 cases, the great majority occurred in early childhood; the ratio of the cases occurring before the tenth year to those occurring after that age is about 90:10. Consideration of the ætiology gives a plausible explanation of the more frequent occurrence of bilateral empyema in children than in adults. In the latter empyema often follows a tuberculous pleuritis or pneumonitis, and this is usually unilateral. In children, on the other hand, the affection in the great majority of cases follows lobar pneumonia, and this is often bilateral. Sometimes the onset of empyema in children is very insidious and therefore it is wise to observe children with lobar pneumonia more carefully and for a longer time than would be necessary in adults. In a child, for example, convalescent from lobar pneumonia, recovery may appear to be complete, the temperature may be normal, the physical signs may have disappeared almost entirely. The child may apparently be well for several days or more, but then the physician is called and is surprised to find considerable pus in the affected chest.

Hellin's statistics show that bilateral empyema occurs about twice as often in males as in females. The right side of the chest is the first involved about as often as the left. In 113 of the cases there were thirty-four deaths—a mortality of 30.1 per cent. In 1,335 cases of unilateral empyema also collected by Hellin there were 299 deaths—a mortality of 22.4 per cent. While my own series of cases is too small to warrant drawing conclusions from, yet in these the only fatality occurred during the summer months as a result of ileocolitis which developed one month after the second operation. In those of the 114 patients that recovered, the total duration of the illness, counting from the time of the first operative procedure to the time of complete closure of the sinuses, varied from sixteen days to five months. In the cured cases the duration was about six and eight weeks respectively.

For our improved methods of treating these cases we must acknowledge our indebtedness to the surgeon, from whom we have learned that aspiration of the chest either as a diagnostic or therapeutical measure is simple, safe and valuable. It is not very long since a great many of these cases, at first operated upon by medical men, eventually had to be sent for secondary operations to the surgeons. But thanks to their improved technics, which pædiatrists have appropriated, as a rule we are now able to cure empyema in children ourselves. However, it must

be acknowledged that operative interference in children is easier than in adults, and recovery after operation is more rapid. Because of the thin chest wall, persistent sinuses occur less frequently, and because of the softness, elasticity, and rapid growth of the ribs, the wounds heal more rapidly. Even in bilateral empyema in children, with prompt and proper surgical treatment, the prognosis is fairly good.

Occasionally spontaneous absorption of small quantities of pus occurs in children, whereas recovery in adults without operation occurs almost never. In children also aspiration alone sometimes effects a cure, but trials of this method are not to be recommended. In regard to the operation itself there are certain questions which are still sub judice: the time to operate, the use of anæsthetics, and the employment of incision or resection. In deciding these questions one should individualize; certain general rules may, however, be laid down.

As soon as pus has been aspirated from the chest, free drainage of the pleural cavity is to be established. The collapse following the rapid evacuation of a large quantity of pus in thoracotomy can often be obviated by using the Gibson method, in which a good sized tube is inserted into the pleural cavity as soon as the pleura is opened and the wound is quickly covered with a voluminous gauze dressing so that the pus may drain out gradually. A general anæsthetic, preferably chloroform, should be given when the patient's condition will permit. Except in cases with very narrow intercostal spaces or in those cases of long standing in which a large quantity of pus has resulted in compression of the lung, in young children intercostal incision is the operation of choice. In older children resection of a rib is to be preferred.

Too much stress cannot be laid in these cases of the importance of proper after treatment, which should be conducted according to surgical principles. An exposed roughened rib is not always an indication for a secondary operation; a thorough curetting of the bone followed by the repeated injection of an irritant such as iodine will often effect closure of the sinus.

When pus is present in both pleuræ, most authorities are agreed that the sooner the left side is operated upon, the better is the prognosis. By relieving the left chest the pressure on the heart is minimized, and there is less liability to a complicating pericarditis, cases of which have been recorded. Occasionally an unfortunate outcome of opening both pleural cavities at the same time has been the collapse of both lungs. On that account it has been our custom to operate only on one side at first and then, before operating on the other side, to wait seven to ten days so that firm adhesions may form. Formerly this view was also held by Hellin. But we live and learn. That we must modify our teachings in regard to the dangers of double pneumothorax is shown by the following from Hellin's article:

"The question of double empyema is closely associated with that of double pneumothorax. *A priori* one would imagine that opening of both pleural cavities would be fatal. Here practice has superseded theory. At first the second pleural cavity was opened only after closure of the first. But through force of circumstances we learned gradually to

shorten the time between the two operations until both were performed simultaneously. Then even the skeptical were convinced that the fears of double pneumothorax which had sprung from the classical theory was unfounded, since the patients did not cease breathing in spite of the two open pleural cavities. That this must be so I had occasion to observe five years ago, and a short time ago I had an opportunity of conducting further experiments in this regard. Coupland and Gould go so far as to maintain that a double incision indeed aids expansion of the lungs."

A detailed report of my cases follows, the first two of which I previously reported in the *Mount Sinai Hospital Bulletin*:

CASE I.—J. S., male, age two years, born in Russia, admitted to the hospital July 8, 1904, with the diagnosis of double pneumonia and enteritis. One week later, when the temperature was normal and the general condition excellent, the patient was discharged because of a suspicious desquamation of the skin. Three days after discharge patient was readmitted with the diagnosis of empyema. After leaving the hospital there had been continued cough and profuse perspiration, but no fever or vomiting. Pus had been aspirated from the left chest on the day previous to readmission. Examination of the patient on July 18, 1904, showed:

The leucocyte count was 26,400. The general condition was much poorer than on discharge. There were cough, dyspnoea, and cyanosis. Examination of the lungs showed dulness and diminished breathing over entire left chest anteriorly. Posteriorly there were numerous râles over both chests; over the whole of the left chest, marked dulness and diminished breathing; and similar signs over the right chest from the scapular spine to the base of the lung.

Heart.—The upper and left borders were obscured by pulmonary dulness. The right border was one finger to the right of the right sternal border. The heart's action was rapid but regular. No murmurs. The pulse was of poor quality.

Liver.—The free edge was palpable three fingers below the free costal border. The spleen, abdomen, genitals, extremities, and the rectal examination were negative. The urine was negative throughout the illness, except for a trace of albumin during the first few days.

Soon after readmission exploratory puncture of the pleural cavities showed the presence of pus in both chests, spreads and cultures of which showed pneumococcus. On the following day, employing the surgical procedure in these cases, I resected a portion of the eighth rib on the left side, evacuating considerable greenish pus and draining the pleural cavity with two rubber tubes.

The patient reacted fairly well after the operation. During the next three days there were high temperatures, rapid heart action, and a leucocytosis; vigorous stimulation was resorted to. Then the general condition began to improve and the temperature dropped to normal. Drainage from the wound, which was dressed daily, was free; the discharge continuously diminished; and the lung expanded well.

Nine days after the resection on the left side an intercostal incision was performed on the right side, pus having been aspirated from the right chest twice in the meantime.

Recovery was now rapid and uninterrupted. The patient gained in weight, the hæmoglobin increased from fifty per cent. after the first operation to seventy per cent. just before discharge, and the wounds healed rapidly. Six weeks after the first operation the wounds were entirely healed and the patient was discharged cured.

CASE II.—S. T. L., female, age one year, admitted

to the hospital July 8, 1902, with the diagnosis of empyema on the right side. The child had been ill eleven days with fever and slight cough. Physical examination showed the child to be in poor general condition. There were dyspnoea and cyanosis of the ears, lips, and finger tips.

Lungs.—At the base of the right lung posteriorly were flatness, absent breathing, and diminished voice and fremitus; higher up, as well as in the right axilla, were marked dulness, compression breathing and numerous râles. The breathing was rapid and diminished.

Liver.—The free edge of the organ was palpable three and a half fingers below the free costal border in the mammary line. Both kidneys could be distinctly palpated. Otherwise examination of the abdomen was negative.

On the day of admission the patient looked very sick, the fever was moderately high, the stools were green, examination of the urine showed nothing noteworthy. The leucocyte count was 47,000. On exploratory puncture of the right chest thick greenish pus was withdrawn, the bacteriological report of which was pneumococcus.

Because of the poor general condition of the child and the small amount of pus in the right chest immediate operation was not deemed advisable. The patient was carefully observed, put on stimulation, and a week after admission as much pus as could be obtained (only 1 c.c.) was aspirated from the right chest. There continued high fever, the leucocytosis, and little change in the physical signs. When, however, twelve days after admission, the general condition had improved somewhat and the signs in the right chest had increased, under local anaesthesia an intercostal incision was made below the right scapular angle, a small quantity of pus was evacuated, and a drainage tube inserted. The child went into collapse after the operation, but after heroic stimulation gradually rallied. Drainage from the wound was free and the general condition improved for four days. Then new signs were found in the left chest, on aspiration of which pus was withdrawn. On the same day, fifteen days after admission, an intercostal incision was performed on the left side. The child stood this operation well and for the next ten days seemed to be getting on fairly well. Then there developed an ileocolitis; there were frequent diarrhoeal movements with mucus and blood. The vitality of the patient had already been taxed to the utmost, and this intercurrent affection probably contributed largely to the ultimately fatal termination.

CASE III.—L. B., female, age three years, admitted to the hospital August 8, 1905, with the diagnosis of empyema on the left side; pus had been aspirated from the left chest by the family physician on the day previous to admission. According to the history there was at first a lobar pneumonia on the left side; the child had been ill eighteen days, the onset had been sudden, and during the first ten days the symptoms were pain in the left chest, cough, rapid breathing, and high fever.

Examination showed the following: The temperature was 101°, the pulse 130, the respiration 44. The leucocyte count was 27,200. Furuncles were present on scalp and forehead. There were marked dyspnoea and perceptible bulging of left chest. The measurements gave a circumference of the right chest as 24.5 cm. and of the left chest as 29.5 cm. Over the left lung were signs of a moderate amount of fluid in the left pleural cavity. The heart was slightly displaced to the right; the right border extended three cm. to the right of the right sternal border, the sounds were heard most distinctly over the lower sternum, and the apex beat was not seen or felt. Pus aspirated from the left chest soon after admission, and pus from the furuncles showed staphylococcus aureus.

On August 9th, thoracotomy with intercostal incision was performed in the usual manner; recovery from this operation was without incident, and in five weeks the wound was healed. The patient, however, did not gain in strength and continued to have a temperature reaching 101° for which no cause was found till September 16th, when it rose to 102°. Physical examination then revealed new signs in the right chest. Because of dulness, diminished breathing, voice, and fremitus in the right axilla and at the right base, also the rise in the temperature and the increased leucocytosis (from 14,400 on August 29th to 22,000 on September 16th) the right chest was aspirated; and pus showing staphylococcus aureus was withdrawn. Two days later an intercostal incision was done on the right side. Except for a thorough curetting, which procedure was necessary because of the eroded rib, the further course of the illness to complete recovery was uninterrupted.

56 WEST ONE HUNDRED AND TWENTIETH STREET.

Correspondence.

LETTER FROM TORONTO.

The Toronto General Hospital.—Sanatoria for Consumptives.—Trinity Medical College.

TORONTO, May 14, 1906.

The act respecting the Toronto General Hospital has been passed by the Ontario legislature. By it a new board of trustees will be called into existence who will administer the affairs of the hospital. The new board will consist of twenty-five members in place of the five who constituted the old board. Those twenty-five trustees are to be appointed or elected as follows: Eight by the Ontario government, five by the University of Toronto, five by the city of Toronto, and seven by the subscribers. One section of the act came in for a good deal of opposition, namely, that dealing with medical students and their clinical training and privileges. It is understood that the original wording of the bill in this regard has practically been carried and that the right to clinical instruction is confined to the medical students of the University of Toronto. This of course shuts out any proposed privileges for a prospective medical faculty for McMaster University, which has been rumored for some little time. It is supposed that the action of the legislature in granting this exclusive privilege will forever put a quietus upon any ambitions of McMaster in the direction indicated.

While those interested in the prosecution of legislation looking toward betterment in the management and control of affairs of the Toronto General Hospital were pushing forward the measure through Parliament, the medical staff, anticipating the new order of things and with an eye single to the perfection of medical education and the relationship between the medical faculty of the university and the hospital, has brought forth a scheme of complete reorganization which is of the most radical character. The recommendations embodied in a report which will be presented by the medical staff to the new board call for great magnanimity on the part of every member of the medical staff. It is to the effect that all resign from their respective positions.

Once this has taken place, the new board has a free hand to go on and call for applications from the entire profession of the city, and make all appointments solely on merit. The appointment of a medical board is then advised which is to consist of the chiefs and assistants of all the departments, who shall advise the board of trustees on all matters relating to the medical control of the hospital. A medical service, consisting of at least fifty beds, is to be established under the control of a physician in chief, and attached to this service there is to be an assistant physician, who, on account of the fact that he will be required to do much work, shall be paid an honorarium of \$1,000 per annum. Instead of a physician each day to the outdoor department, it is recommended that three be appointed to this work, two to serve twice a week. As many other clinical assistants as are required for the work should be appointed. Physicians in chief are to devote their whole time to teaching and hospital and consultation work. An age limit of sixty is recommended. It is proposed also that \$10,000 be appropriated annually by the board for the maintenance of the scientific departments of the hospital. The general profession are to have full and unrestricted privileges of the private and semiprivate wards. It has been decided by the board of trustees of the hospital that, owing to the large weekly loss incurred, the down town emergency branch shall be closed forthwith. A new department for acute nervous cases, with accommodation for about fifteen patients, has recently been established in connection with the hospital. Dr. D. Campbell Meyers is in charge of this ward.

Toronto will not embark upon the consumption hospital business. About a year and a half ago the rate payers voted \$50,000 for the purposes of a consumption sanatorium, but as the council would not advise the erection of a hospital, the matter was allowed to stand. In the mean time a doctor came to the head of the local board of health and revived the project of a municipal consumption sanatorium. The matter finally drifted to the Ontario legislature, where a private bill was drafted in the interests of this city for the purpose, but the private bills committee of the legislature threw out the bill by a large majority. It is likely now that the city will follow out the recommendations of its health officer that the grant be handed over to the National Sanitarium Association, to be applied for the use of Toronto patients at their Free Hospital for Consumptives at Weston, ten miles from Toronto.

What may be called the closing scene in the life of Trinity Medical College has been taking place during the past week or two. It was the final examination of the class of 1906, which entered Trinity four years ago, a year prior to amalgamation. By the terms of agreement with Toronto University these students, numbering forty, were to be examined by and receive their degrees from Trinity University. A feature of this last examination was a presentation of an address to the former dean of Trinity Medical College, Dr. W. B. Geikie.

Our Readers' Discussions.

A SERIES OF PRIZE ESSAYS.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

L.—What is the best form of shack or tent for tuberculous persons? (Closed May 15, 1906).

LI.—How do you treat prolapse of the umbilical cord? (Answers due not later than June 15, 1906.)

LII.—How do you treat hemicrania? (Answers due not later than July 16, 1906.)

Whoever answers one of these questions in the manner most satisfactory to the editors and their advisors will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED) that the answers be short; if practicable, no one answer to contain more than six hundred words.

All persons will be entitled to compete under the regulations laid down by the postal authorities. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL.

The prize of \$25 for the best essay submitted in answer to question XLIX has been awarded to Dr. Raphael O. Semmes, of Camden, Ala., whose article appeared on page 1026.

PRIZE QUESTION NO. XLIX.

THE TREATMENT OF LUMBAGO.

(Continued from page 1028.)

Dr. Burtis Walden Green, of La Aurora, Puebla, Mexico, writes:

Lumbago is defined as a form of muscular rheumatism affecting the muscles in the lumbar region (small of the back). The average patient of this class who applies to us for treatment wants relief for an acute attack. We must, therefore, first afford the patient relief—for they often suffer intensely. Secondly, we must remove the rheumatic diathesis.

If the patient is suffering acutely it is best to confine him to bed and order a liquid diet. I then give one tablet of the official acetanilide and sodium compound, with one fourth grain of codeine sulphate. This dose may be repeated every three or four hours until relief is effected. A towel or a heavy piece of flannel is then wrung out in very hot water, and over this one teaspoonful of chloroform is sprinkled. The patient is instructed to lie upon this. The application is to be made as hot as patient will allow, and the process is repeated every fifteen or twenty minutes until pain ceases. The official chloroform liniment is to be applied in connection with these hot fomentations, with plenty of friction every hour until relief is felt. The massage which we unconsciously use in applying the liniment is beneficial in itself.

If these two methods fail to suffice counter-irritation, by means of mustard plasters or tapping the parts quickly by means of an electric cautery heated to white heat, will often be beneficial.

After the patient has been relieved of pain, the parts must be immobilized as far as possible by means of well applied porous plasters.

In the way of prophylaxis, the patient is not allowed to do anything which will overtax the muscles of the back.

We now attack the rheumatic diathesis: The urine must be examined thoroughly, when we will nearly always find a retention of waste products, hence elimination must be increased through the skin, kidneys, and bowels. To correct the hyperacidity, large quantities of alkaline water should be given. The digestion should be looked after and corrected, if it be found faulty. Exclude meats from the dietary; no form of alcohol is allowable, but insist upon plenty of fresh vegetables and fruits.

The patient must wear woolen underwear the whole year. He should lead an out of door life in a uniform climate.

The patients are greatly benefited by dry hot air, such as is afforded by the dry hot air body apparatus sold for the purpose.

Dr. George S. Eveleth, of Little Falls, N. Y., states:

The majority of cases of lumbago occurs in males who are engaged in some active occupation. Lumbago is probably due to some chemical change in the tissue fluids, due to the lowering of the surface temperature. Engineers and firemen, both of locomotive and stationary machinery, furnish many cases of lumbago. These men are all alike exposed to the same exciting causes. Muscular exercise and cooling drafts of air on the back from the end of the engine cab, from the open door of the engine room, or from the open window in which the operator frequently sits while watching his machine. The onset is too sudden to be a true myositis, and the increased acidity of the tissue juices would seem to indicate that the cause of the muscular pain and disability is a chemical one.

The indications for treatment are chiefly two: First, the administration of alkalies, and, second, remedies to hasten elimination. Salicylic acid, soda salicylate, the various salts of ammonia and potassium are indicated. The combination that has always done me the quickest and most effective service, especially in plethoric, robust patients, has been:

R Tincturæ nucis vomicæ.....3iii;
Tincturæ colchici,3iii;
Liquoris potassii hydroxidi,.....3iii;
Tincturæ gentianæ comp.....ad 3vi.
S. Teaspoonful in a glass of water every four hours.

For anæmic patients and patients of a weaker type Basham's mixture, in two drachm doses in the same amount of water, and at the same interval, is better borne. Their action is somewhat similar, as both contain an alkali and both increase the kidney elimination.

Should the patient be able and desire to continue with his work, a belladonna plaster, sprinkled lightly with powdered antimony and potassium tartrate and applied to the right and left lumbar regions, will afford marked relief from pain and muscular lameness.

If the attack be so severe as to confine the patient to his room or bed, unless the pain is so acute as to call for a hypodermic injection of morphine, nothing will give relief so quickly as hot, wet compresses. The compress should be made of several thicknesses of soft flannel, and the water used

should be as hot as can be borne. If a piece of dry flannel be placed next to the skin, more water can be left in the compress, and water of a higher temperature can be used. A hot water bottle or bag, or some other heated object, may be applied next to the wet compress, and the whole covered with rubber cloth or oil silk to keep the patient's clothing dry, and to keep in the heat. The compresses should be renewed every fifteen minutes till the pain ceases, care being taken to keep the parts dry and well covered while the compress is being renewed. At intervals of every forty-five minutes a cloth wrung out in cold water should be applied for one minute or two; and when the hot compresses are discontinued for the day the cold cloth should be applied again for a minute. The parts should then be dried and massaged well with an ointment containing twenty drops of the oil of cloves, one drachm of the oil of rosemary, a drachm and a half of oil of wintergreen, two drachms of salicylic acid to two ounces of benzoated lard, and then covered with a dry flannel.

Massage, either manual or mechanical, has been found to be very helpful in any stage of the disease. It increases the tissue metabolism, and hastens elimination, and is of great use in chronic lumbago, as is also electricity, either the constant or interrupted current. The static machine also gives always a temporary and sometimes a permanent relief.

Finally, a few general considerations should always be kept in mind. The bowels should be open, the diet carefully regulated; tea, coffee, and alcohol should be abstained from, and tobacco used only sparingly, or not at all. The lumbar muscles should be protected by a light flannel bandage. Susceptibility to changes in the temperature may be lessened by a daily morning cold bath.

Dr. Augustus F. Dempewolf, of New York, remarks:

The proper management of lumbago presupposes a clear conception on the part of the physician of the malady which he is endeavoring to treat. It must always be borne in mind that the word lumbago is but a name applied to the localization of an attack of muscular rheumatism in the lumbar region of the back.

If the exact cause of rheumatism were known, treatment directed with the purpose of bringing about a permanent cure would no doubt be simple. Theories abound; each has its adherents, yet not one has been universally accepted. The facts which every practicing physician has discovered for himself are: That persons over thirty years of age are more liable to attacks of acute muscular rheumatism than those of an earlier age; that persons who are much exposed to cold and dampness are prone to repeated attacks when once they have been assailed.

It is when this form of rheumatism becomes chronic that appreciable pathological changes sometimes take place. Fibrous bands and nodules are found among the muscle fibres. These nodules are often the cause of the intense pain of which patients complain.

As one thinks over these cases the idea sometimes presents itself that in this disease, as in certain others, there is probably some poison acting which ultimately tends to productive inflammation,

whose origin is dependent upon a deranged metabolism.

The treatment used by the writer depends upon the severity of the attack and the idiosyncrasy of the patient.

In the cases where there is a transient myalgia, lasting for a few hours or a day or two, the following is prescribed:

R Tablets of salol, gr. v, No. vj.
S. one every 4 hours.
R Hydrag. chlor. mit., gr. ¼.
Tablets No. 4. S. one every 15 minutes; follow by sal
Rochelle, oz. i, half hour later.

The patients are advised to make a mustard paste, as follows: English mustard, 3 parts; flaxseed meal, 5 parts; camphorated oil, 6 parts; sufficient hot water to make a paste. This is applied to the lumbar region for twenty minutes. This treatment is usually all that is required in the milder cases.

In the cases where there is pain, not only when the muscles are called into activity, but while at rest; where the pain is paroxysmal, severe, and compels the patient to cry out at times; when there is no fever—these patients are advised to go to bed. The diet is regulated; red meats and all liquors are entirely prohibited. Sweets are allowed in moderate quantities. They are encouraged to imbibe copious draughts of water; calomel is administered, as in the milder cases. Hot turpentine stupes are applied to the loins, removed when the heat has radiated therefrom; hot ones are reapplied until the skin is a bright red. If the patient bears it well, either soda, salicylate or acetylsalicylic acid is given internally. An excellent combination is the following:

R Acetylsalicylic acid, 0.975 gramme;
Wine of colchicum seed, 0.195 gramme;
Sodium bicarbonate, 0.325 gramme;
Codeine sulphate, 0.0081 gramme;
Water, 2 grammes;
Compound syrup of sarsaparilla, 2 grammes;
S. To be taken every four hours.

In our city, in persons over fifty years of age, when the pain is intense, usually we find the nerve sheaths also involved; for these faradism has done much good. A mild current is used for a half hour at a time. Care must be taken that the sponge is large enough to cover the breadth of the muscle involved.

For those patients who look sick and feel very ill; whose pain is constant, severe and varied, and accompanied by great tenderness; who have an appreciable rise of temperature, with a pulse beating over 90, I seek first to reduce the pain. The writer uses one of two methods, which are equally efficacious: Acupuncture as practised by Ringer, or the hypodermatic injection of morphine (gr. ¼). While the former method has been attended by happiest results where employed, there are patients who strenuously object to the treatment; in these cases the morphine is always used. Later aconite is administered, of the tincture, gtt. one every hour for eight doses. It does not only reduce the temperature, but, aided by the morphine, relieves the turgescence. The prescription before mentioned is also recommended, to be continued for one week. Gentle massage and heat in the form of baths, or packs extending from shoulders to the thighs, are given when the pain has somewhat diminished.

In the chronic cases, reliance is placed upon rest, warmth, electricity, and for those who can take it—

R Potass. iodid.,65 gramme
Fluidextract gelsemii,325 gramme

given together every four hours. If these two drugs do good in combination it will be after three or four doses have been administered. If no result is obtained the potassium iodide is included in the combination heretofore mentioned and the gelsemium discarded. Should the pain continue excision of the nodules has always brought relief.

Dr. Gustaf Sundelius, of Boston, notes:

It is my purpose here to call attention to the splendid results obtained by massage in treating lumbago and similar ailments. I will not try to discuss the value of different drugs or local applications. Only I will say that I believe them to be unnecessary, for in most of the numerous cases that I have seen quickly go to perfect and lasting health there have been no drugs administered, no liniments or bandages used—only local massage and dietary restrictions. Of course, the diet should be regulated in the first place. However, I will touch lightly on that subject, merely pointing out that in the vast collection of different opinions by different authors there is one point where they all agree—that the amount of nitrogenous food should be decreased.

How, then, does the massage affect the trouble? Lumbago, like other cases of similar nature, shows the presence of rheumatic poison in the system. By some reason or other the tissue change is faulty, the assimilation poor, the waste matters are not properly oxidized and carried away through the natural ports of secretion. This fundamental irregularity of the system being corrected by dietary rules, the local symptoms of disturbed metabolism and deposit of suboxidized and toxic substances, in this case manifesting themselves in the lumbar region, may and will be helped by massage. The manipulations serve two purposes: They increase the afflux of fresh blood, thus improving the assimilation and nutrition, and they assist in starting up the secretion, and cause the inflammatory products to be absorbed and carried away by veins and lymphatics. Where distinct myositis or cellulitis is present, which often readily can be felt as infiltrations or lumps, the massage reduces the swelling and takes away the soreness. I have met quite large infiltrations of the muscular or subcutaneous tissues, sometimes exceedingly painful to touch, that have been made to disappear in this way in short order. The massage furthermore relaxes the stiffened muscles of the loin, while proper exercises make them elastic and pliable and direct a fresh stream of blood toward the lumbar parts.

The course of the treatment is as follows: Make a careful examination by palpation of the whole lumbar region. Pay special attention to the attachments on the iliac bones of the glutæi, the erector, and multifidus spinæ: locate sore spots or lumps and treat with particular care. After light affleurage to start up the circulation in superficial parts, give a thorough petrissage (kneading) over the whole lumbar region. Over the glutæi work from the sacrum toward the ilium, facilitating the flow of lymph to the superficial inguinal glands, while over the lower part of the back work from

the spine outward and downward. If indicated to operate higher, work toward the axillæ. Begin easy, especially over painful tissues or where the lumbago has a traumatic anamnesis. Where distinct swellings are discovered take particular pains to knead thoroughly. Use some lubricant—petrolatum, coconut oil—it makes the treatment pleasanter for the patient and easier for the operator, and prevents irritation of the skin. The value of liniments is extremely doubtful. Strümpell, for one, says that the value about them is the massage in rubbing them in. After twenty minutes of petrissage give light and elastic percussions, or, better still, vibrations by a vibratory machine, then firm strokes in the direction of veins and lymphatics, and finish with a few exercises, first passive, then resistive, which influence the muscles of the back and hip.

The treatment takes about thirty minutes, and should be repeated every day until every sign of soreness is gone, and movements are free and easy. In no case more than ten treatments have been required; in some two or three have been sufficient. The patient will feel relief after the first treatment, but an increased soreness for touch will naturally appear, which, however, will go away after two or three days, a fact which the patient should be carefully given to understand.

Dr. David John Kaliski, of New York, writes:

Lumbago may be amenable to very simple local procedures, or may resist these and also energetic internal medication, and become a source of chronic trouble, incapacitating the sufferer often from the mildest forms of physical exertion. In the treatment of lumbago it is often wise to take into account, if possible, the ætiological factors and direct the treatment in this direction.

In those cases of rather sudden onset, due usually to exposure to cold, wet, or a draft, where the pain is severe or excruciating, and the stiffness and disability very marked, much relief can be gotten from local treatment. The hardy workingman, more prone to the affection than most people, may be relieved almost immediately by the application of the actual cautery, or by acupuncture, in the latter case an ordinary sterile darning needle being plunged into the lumbar muscles and removed in about five minutes, the procedure being repeated in a few spots distributed over the affected area.

Where these methods are not feasible, or are deemed too severe, much relief is gotten from hourly or two hourly ironing of the lumbar muscles with an ordinary laundry iron as hot as can be borne, a towel being placed over the skin to prevent scorching. This should be kept up each time till the skin is distinctly reddened. Hot cloths, either alone or in conjunction with above, often hasten the cure. These should be large enough to completely cover the loin, and should be wrung out of water, as hot as can be borne without blistering, to which a drachm or two of turpentine has been added. The stimulating liniments are often exhibited, and in some cases, especially where there is a rheumatic tendency, methyl salicylate, or wintergreen oil, gives comfort. The judicious exhibition of the coal tar products, salicylates, and the iodides hastens recovery. In the most acute cases it is sometimes neces-

sary to give a hypodermic injection of morphine to control the severe pain present at the slightest motion and even when at rest.

In the less acute cases, the less severe local procedures, such as ironing and the hot wet pack, combined with the coal tar products, are usually sufficient to cause a speedy cure. But in these cases it is essential to order complete rest for the part in the reclining position in bed. In the acute cases this is usually the position of choice, but should also be enforced in all cases.

Rheumatic cases are best combated often by the exhibition of the salicylates, iodides, and alkalies, together with such local measures as thorough inertia, with methyl salicylate, and ironing of the sore muscles. Gouty cases often quickly succumb to the use of colchicum and proper dietary restriction, where the ordinary measures have no effect.

Before allowing a convalescent lumbago sufferer to do any heavy work, the back muscles should be supported by strapping transversely with adhesive plaster strips of two inches' width from the sacrum to the lower ribs. While these measures usually suffice to cure an attack of lumbago in from a few days to a week or so in the average case, many hang on in a subacute form. A dull ache or pain, often only after lifting a heavy weight, or on arising in the morning, is complained of. In such cases a cold sponge, followed by a brisk rub down with a rough towel, or, better, enveloping the entire body in a sheet wrung out of cold water, till reaction sets in, will often put an end speedily to an obstinate case. The latter procedure has been known to prevent oft repeated exacerbations of lumbago. The actual cautery is the last standby in obstinate and recurrent cases.

To prevent recurrence, avoidance of drafts, exposure, etc., proper clothing and the wearing of a flannel pad across the back in those especially prone to the trouble are to be advised. Tonic treatment here is also advisable—*nux vomica* and iron, especially if the patient is anæmic and run down.

Should a neuralgia of the lumbar nerves be diagnosed, rest in bed, the use of the coal tar products and bromides in fair doses, and application of warmth to the part, should be advised.

Dr. David Cohn, of Buffalo, N. Y., states:

When called in to treat a case of true lumbago, if the pain is very severe and agonizing, as is sometimes the case, I give the patient a hypodermic injection of morphine and atropine, injecting it directly into the muscles, thus sometimes aborting the disease. My local treatment is acupuncture—that is, I introduce sterilized needles, three or four inches long, deeply into the lumbar muscles at the seat of the pain, and I remove them in ten minutes. I then put the affected muscles at rest, which is of prime importance, by applying adhesive plaster from the floating ribs to the iliac crests. Hot water bags should then be placed under the lumbar muscles. Internally, if rheumatism is the cause, I give anti-rheumatic remedies, as acetylsalicylic acid and sodium bicarbonate, and regulate the diet. If gout is the cause, this must also receive appropriate treatment. So much for acute cases.

In subacute, obstinate, or chronic cases, which are not much benefited by the above treatment, my

local treatment comprises liniments, containing oil of wintergreen, spirits of camphor, belladonna, aconite, chloroform, and laudanum, and these are to be applied very energetically. Internally potassium iodide, ten grain doses, four times daily, and general tonics, as iron, quinine, arsenic, and strychnine, are of service. I use galvanism in very stubborn cases. Those subject to the malady should avoid exposure to dampness or cold, and should try to keep their general health on the highest possible level.

(To be concluded.)

Therapeutical Notes.

Lactic Acid for Tuberculosis of the Soft Palate.—Etiévant (*Revue française de médecine et de chirurgie*, April 25, 1906) declares that the best local application, as a caustic, is lactic acid (15 parts, water 5 parts), which he prefers to chromic acid, tincture of iodine, or carbolized glycerin.

Charcoal as an Antidote to Mushroom Poisoning.—The *Bulletin général de thérapeutique*, April 15, 1906, states that pulverized wood charcoal, or preferably animal charcoal, is an efficient antidote to the poison of mushrooms, acting almost miraculously. Several spoonfuls of animal charcoal, mixed with water, are sufficient to relieve or check the most severe cases of poisoning.

Treatment for Loss of Hair.—Brocq (*La Quinzaine thérapeutique*, March 25, 1906) recommends the following as an application to the scalp to prevent baldness:

| | | |
|---|-------------------------------------|--------------|
| R | Acid. acetici (crystal),..... | 5 grammes; |
| | Tincturæ cantharidis, | 10 grammes; |
| | Spiritus rosmarini, | 25 grammes; |
| | Tincturæ pilocarpī, | 25 grammes; |
| | Spiritus sacchari jamaicensis,..... | 150 grammes. |

M.

Use of Digitalis for Weak Heart During Acute Pneumonia.—R. Freund, in discussing the digitalis treatment of weak heart in the infectious diseases (*Medizinische Wochenschrift*, April 23, 1906), remarks that in acute pneumonia there is almost always a dilatation of the heart as a consequence of the weakening of the heart muscle under the influence of the toxine. This condition frequently causes fatal collapse. For its relief digitalis is indicated on account of its power in sustaining the heart. The treatment of pneumonia, in fact, at this time is principally directed towards overcoming cardiac weakness and failing circulation. At the same time no specific action is claimed for this remedy. Aufrecht believed that the digitalis treatment was applicable particularly to those conditions of irregularity and slowness of the pulse, which accompany myocarditis, especially in old people. It is true that where the heart is sound as in young people, pneumonia may be successfully treated without a heart remedy, but whereas in hospital treatment may be largely expectant, in private practice, on the contrary, where the patient cannot be so carefully watched, it will not be wrong to administer digitalis as a prophylactic. Liebermeister and Jürgensen have reported the success-

ful use of digitalis in pneumonia, which seems to reinforce the heart action by increasing its capacity for work. Freund claims that the better performance of its function by the heart improves the blood supply of the lung, and thus exerts a favorable influence upon the course of the disease.

Eruption on the Skin Following Cough Mixture.—Gaucher, Boisseau, and Desmoulières presented an interesting case before the Paris Société médicale des hôpitaux (*La Tribune médicale*, April 7, 1906), illustrating a medicinal eruption in a patient suffering with cystinuria. The patient was a man, forty years of age. He recalled the fact that at twenty-six years of age he had taken to relieve some abdominal pains three drops of cherry laurel water (corresponding to seven one hundredths of a milligramme of hydrocyanic acid), and in twelve hours this had been followed by a general vesicular eruption which spread over his body and the upper part of his thighs. It lasted for fifteen days, and was unaccompanied by any disturbance of his general health. On February 8th of this year, for the relief of a bronchitis, he took a tablespoonful of a cough mixture, containing cherry laurel water. He took in all five drops of the cherry laurel water and four grammes of syrup of belladonna. During the same night he was attacked by an urticarial eruption, and on the following day desquamation began, which became general, and lasted four days. It was noted, as worthy of remark, that during this time the patient did not cough, and all signs of bronchitis disappeared. On February 14th, the patient beginning to cough again, took a dose of another cough mixture in which the cherry laurel water was replaced by chloral hydrate (0.50 gramme). Some hours later an eruption similar to the preceding occurred, which was also cured in about five days. The cough was again arrested, for this time and a few days longer. About the twenty-fourth of February, the cough having returned, he took a dose of another mixture: Syrup of codeine, extract of opium, and syrup of belladonna. Two hours afterwards, a new eruption appeared, analogous to the preceding. Desquamation ceased on March 14th. In commenting upon this remarkable case, the reporters stated that the explanation of this unusual susceptibility to the action of drugs is explained by examination of the urine, which showed numerous crystals of cystin. There was also a deficiency very marked of the oxidation products of sulphur and of nitrogen. The analyses also demonstrated the presence of sulphur compounds indicating abnormal intestinal fermentation. It is conceivable that in a patient already poisoned by hepatic insufficiency the least additional heterointoxication might produce morbid phenomena (dermatoses).

Buttermilk in the Treatment of Certain Infantile Skin Diseases.—E. Davenière points out (*Paris Thesis*, 1905; *Revue française de médecine et de chirurgie*, 1906, No. 7) that strophulus and eczema are produced in infants by a defective alimentation, either in quantity or in quality, or

both. Too much food, excess of fats (milk too rich in butter), coarse living, bad hygiene of the wet nurse—these are the principal factors which produce the syndrome of gastrointestinal toxic infection. In addition to the eruptions upon the skin, there may be regurgitations or vomiting, foetid stools, imperfect digestion, diarrhoea, or, more frequently, constipation. Often the belly is swollen and dilatation of the stomach, hepatic hypertrophy, and other signs of rhachitis may be present also. Under such conditions the local treatment of acute eczema can only be secondary, or accessory to the dietetic treatment. At the beginning moist compresses may be applied to relieve the irritation of the skin. Later, the following dusting powder may be used:

R Talc.,
Bismuth subnitrate, }āā 2 parts;
Zinc oxidi,I part.

In strophulus, the same internal treatment may be applied. To relieve itching, hot lotions containing chloral hydrate, phenol, or menthol may be used. Internal treatment is prophylactic and curative. Edmond Lesné has suggested the use of buttermilk as an important article of diet. The fresh milk, without any modification by heat, is allowed to remain for twenty-four hours at the temperature of the room, 18° to 20° C. in winter, or in the cellar in summer, in a tightly closed receptacle. Two or three times during the day this is shaken up. The souring may be aided by introducing a spoonful of buttermilk which is already sour, from the day before. The milk, now ready to be churned, should be rather thick, but homogenous and without any serum on the surface. The milk is now churned and the butter removed. The buttermilk can be used within the succeeding twenty-four hours. Later than this it is dangerous, because too acid. The buttermilk may be given raw, but generally it is thickened with a little farina, and sugar is added, and the mixture gradually heated in the fire while constantly stirring, until it boils up three times, it is then taken from the fire and allowed to cool gradually. This preparation may be given to nurslings, either exclusively or alternately with milk, but in larger doses than the latter. It can be given in a nursing bottle if made smooth. For older children, it may be made thicker and combined with broth, and plain buttermilk can be given in the intervals between the feedings. It is claimed that by this method much quicker results are obtained than by the usual methods of treatment, partly due to the easy digestibility of the food and partly because of the lactic acid which it contains and which acts as an intestinal disinfectant.

Action of Radium Emanations Upon Chromogenic Bacteria.—Burchard and Balthazard, in a communication to the Académie des Sciences (*Le Progrès médical*, April 21, 1906), declared that while the radiation of radium is without effect upon the chromogenic power of bacteria secreting a coloring matter which remains adherent to the proper substance of the organism, it is the reverse with regard to microbes of which the coloring matters diffuse readily throughout the

culture medium. For instance, in the bacillus fluorescens and bacillus pyocyaneus the fluorescent quality is influenced by doses of emanation much more feeble than those which are necessary to diminish the activity of reproduction of these microorganisms. A culture tube containing the bacillus fluorescens to which has been added the emanation produced in one hour by an aqueous solution containing six ten thousandths of a milligramme of radium bromide, will, at the end of three or four days, present a green coloration of the slightest degree without there being any appearance of modification of the culture itself. With three thousandths of a milligramme of radium, there is no longer any coloration in the tube, and the culture is a little less abundant than in the control. With increasing doses, however, these cultures become more and more unfruitful, until it ceases completely when there is made to pass through the tube, the emanation formed in one hour by fifteen hundredths of a milligramme of radium bromide. Analogous results are obtained with bacillus pyocyaneus. In this case an influence is observed upon the bacillus itself, as the emanation increases, the length of the microorganism progressively increases; with this increase in length a certain proportion of the bacilli become curved. In those cultures in which development has been interrupted by a very small quantity of emanation, as soon as the latter influence is removed, they regain their former exuberant growth. After the action of the emanation produced in one hour by five one thousandths of a milligramme of radium bromide, the culture again develops, if the emanation be suspended, but the culture will remain without color; and it requires two or three generations of cultures in order that the bacillus may regain its chromogenic power. Finally, the culture, which has been for some hours in contact with the emanation produced in four days by 0.025 milligramme of radium bromide, is no longer capable of subsequent multiplication. The emanation has therefore a bactericidal action, and not merely an inhibitory influence. The emanation of radium *in vitro* also diminishes the virulence of the bacillus pyocyaneus, whether the attempt be made to cultivate the microbe in the presence of the emanation; or the latter is only made to act upon the adult cultures. The authors also attempted to ascertain if the emanation introduced into the organism of a guinea pig would be able to modify the pyocyanic disease. They found that the intraperitoneal injection of the emanation of one hour of pure radium bromide contained in 5 c.c. of air protected the animal from twice the fatal dose of pyocyanic culture, introduced into the peritonæum at the same time with the emanation. If the injection of the emanation be practised one or two hours after that of the microbe, it will only protect the animal from the ordinarily fatal dose, and the results are not always constant. Finally, if the injection be made later than two hours after the inoculation with the B. pyocyaneus, the emanation no longer is efficacious and fails to protect the animal.

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JOULIE'S METHOD OF ASCERTAINING THE
ACIDITY OF THE URINE.

The urine is derived from the blood, and the explanation of how the one, an acid fluid, could be derived by a process of filtration from the other, an alkaline fluid, has always presented a problem to the curious. The problem, in point of fact, has been an imaginary one, because the acid urine is derived from a fluid which, though leaving a blue stain on litmus paper, is nevertheless chemically acid. The acidity of the urine is due to the presence of acid phosphates, and these are also present in the blood, and, though chemically acid salts, capable of taking up another atom of base, nevertheless give a blue reaction with litmus.

The alkalinity of the blood is consequently due to the presence of bicarbonates, which are acid salts, so that it is evident that, whatever may be the reaction with litmus, the blood is an acid fluid both chemically and practically. It is known that the phosphates of calcium and magnesium are so sensitive to any trace of alkalinity that they readily become precipitated, even in a medium which is still faintly acid. Furthermore, it is known that these earthy phosphates are very frequently present in the urine, especially during digestion. Now, in order to enter the urine in a state of solution they must of necessity have been in a state of solution in the blood, and inasmuch as they will not remain in solution in an alkaline medium, there is no escape from the conclusion that the blood from which they have been derived is acid and not alkaline. So much being established, one is justified in concluding that the

degree of the acidity of the urine is a measure of the degree of the acidity of the blood. This acidity in both cases is due to acid phosphates, salts of H_3PO_4 , that is, salts which, like NaH_2PO_4 , $CaHPO_4$, and $MgHPO_4$, are still capable of taking up one or more atoms of base. It is, therefore, obvious that the real urinary acidity is phosphoric acidity.

The specific gravity of the urine to be examined is taken at $15^\circ C$. If the temperature differs from this figure, a correction is made according to a printed table. The total acidity, that is to say, the acidity from all sources, is now calculated, and is expressed in terms of the amount present in a hundred parts of the excess of the urine over that of distilled water at the same temperature. In this way the errors inseparable from the varying amount of water in different samples of the same person's urine are altogether avoided. The degree of dilution of a specimen, always hitherto a matter of difficulty, may thus be disregarded. Thus, if the specimen in question shows a specific gravity of 1.020, the excess (which is called E) is 20, because the density of the water at $15^\circ C$. is known to be 1.000. The total acidity is calculated by means of precipitation with a standard solution of succinate of calcium (10 grammes of powdered chalk and 20 of sugar to a litre of distilled water). The figure thus ob-

tained is called A. Thus we have $\frac{A}{E} \times 100 =$

R A (i. e., the percentage of total acidity in E). The normal standard for R A as worked out by Joulie is between 4 and 5—as nearly as possible 4.5. But, as we have already seen, this total acidity is from our point of view a matter of secondary importance. What we wish to ascertain is the amount which the acid phosphates contribute to this acidity; in other words, how much of this is serviceable phosphoric acidity, and how much of it is organic, fortuitous, and undesirable.

The next step is therefore to determine the amount of phosphoric acid, combined and uncombined, which is present in the given specimen. This is calculated by the classical method with nitrate of uranium and ferrocyanide of potassium, and is expressed in terms of the amount present in 100 parts of the excess of the urinary density over that of water at the same temperature. If we call the total phosphatic contents thus ob-

tained P, we have the following formula $\frac{P}{E} \times$

$100 = R P$ (i. e., the ratio of the phosphates; in other words, the percentage of total phosphatic contents in E). The normal standard for R P as

estimated by Joulie is between 11 and 11.5, as nearly as possible 11.17. In order to find what we are in search of, namely, the amount which the phosphates contribute to the total acidity, it

R P
R A

is necessary to divide R P by R A, thus: —

$$= \frac{11.17}{4.5} = 2.45. \text{ This represents the normal per-}$$

centage of active phosphoric acid, that is, the amount which is capable of neutralizing an equal atomic weight of base, in E, which is the excess of urinary density over that of water.

When the readings show that both R A and R P are below the normal, the explanation is simple enough. It is that there is an insufficient quantity of phosphoric acid in the blood and the symptoms are therefore due, at least in part, to the deposition of earthy phosphates in certain organs and tissues, the treatment resolving itself into the administration of phosphoric acid in gradually increasing amounts. An examination according to Joulie's method will not only establish the fact of hyperacidity or subacidity, as the case may be, but will give us the degree of the deviation from the normal and at the same time inform us of the proper line of treatment.

THE DOCTOR'S VACATION.

The bloom of the wistaria in Central Park, the cheerful summer literature of railway and steamship companies, and the boarding up of the fronts of city homes are reminders that the season for vacations is again at hand. Are our readers preparing to take theirs, and do they intend following the advice they so frequently give their patients in prescribing new scenes and restful change of occupation? Over the entrance of a little roadside inn in western New York, famous alike for its good cheer and the hospitality of its jovial landlord, was placed this appropriate inscription: "As we journey through life let us live by the way." The same idea is found in the gentle admonition of Horace: *Carpe diem*. The lives of most physicians would perhaps bear the infusion of a larger strain of this Epicurean philosophy, for health, the capacity to enjoy, and zest for the good things of life are fleeting, alike for the doctor and for his patients. The undeniable fact that we are all on the waiting list of the Down and Out Club should influence us to enjoy the present rationally while we may, and not defer too long the execution of cherished plans or count the cost too closely.

To-morrow! Why, to-morrow I may be
Myself with yesterday's sev'n thousand years.

The chief essential in the pleasure of a holiday is the element of change, and for the physician this means, first of all, escape from the valetudinarian atmosphere of practice. We have always had a great admiration for that doctor who spent six weeks in an Adirondack camp without the fact being discovered that he was a physician. This was no small feat of good fellowship, and he was a better doctor for being able to emerge so completely from his professional shell and forego the banalities of shop talk. Do not, then, go to a summer hotel and imagine you are taking a vacation while ministering to the complaints of luetic waiters, constipated chambermaids, and the occasional "guest." These should be left to the care of the local doctor, and it has always seemed to us that there is a suggestion of meanness in the physician who continues his fee chasing while ostensibly taking a holiday.

There are almost as many desirable ways of spending a vacation as there are opinions and types of men. Cultivate your hobbies and follow where inclination leads. At all hazards get out of your accustomed groove and environment. A French grammar, a Baedeker guide, a sketch book, or a novel is a better companion for a time than the literature of one's working days. There are many who find that there is nothing so good as a trip to Europe on a steamer which is not too fast. We have heard of a worthy gynecologist who has made repeated trips abroad, but who has seen little or nothing of Europe, except what was visible through a speculum. Such a man should take his vacation in the woods, as far removed from clinics and hospitals as possible. There should be some practicable method of making it a condition of good standing for a doctor past the age of forty to take a vacation of at least a month every year. We have never seen it so stated, but we are firmly of the opinion that the vacation habit is an excellent preventive of those vices of metabolism which result in arteriosclerosis.

PHYSICIANS AND NURSES.

We believe that there could be few if any occurrences more subversive of the work of applying to the greatest advantage our present knowledge in the relief and cure of diseases and injuries than the establishment of serious distrust of nurses by physicians or of physicians by nurses. It is very certain that there is not now any such feeling on a considerable scale. There are undoubtedly individual nurses who deservedly fail to enjoy the confidence of physi-

cians, but we can quite readily concede that there are practitioners of medicine with whom a well trained and conscientious nurse finds it difficult to cooperate. But the facts remain that the average trained nurse is trusted and respected by the average physician, and that the right kind of nurse is rarely balked in her efforts by any error of conduct on the part of physicians with whom she is called upon to serve. It can hardly be denied that it is the duty of the medical profession to seek to reduce the exceptional unsatisfactory conditions to the minimum, and it was with a full realization of this duty that a discussion of the subject of the education of nurses was recently undertaken under the auspices of the New York Academy of Medicine (see our issue for April 28th).

We have never known of a fairer discussion of a cognate subject. It was not confined to medical men, but free play was given to the superintendent of the New York Hospital and to the superintendent of nurses of the Roosevelt Hospital. Certain faults were found with some of the occasional results of the present system of training, but nobody spoke acrimoniously. It is quite possible that certain erroneous statements were made, though it is sure that they were brought forward in perfect good faith. It is natural that members of the nursing profession should seek to correct what they regard as mistaken statements bearing upon the practice of nursing; consequently we gladly give space in this issue to a letter signed by the secretary of the International Council of Nurses and the president of the American Federation of Nurses. These ladies are perfectly courteous in what they say, though we note an approach to the *tu quoque* argument in the following passage: "In the matter of overtraining, it is the experience of many superintendents that constant vigilance and even direct opposition are required to prevent some members of the medical staff from requiring routine medical duties similar to the counting of leucocytes (which Dr. Thompson mentions) from the nurses. In one prominent hospital known to the writers the superintendent of nurses has had to interfere to prevent the nurses from being detailed to record blood pressure, take down notes of medical histories, etc., for the convenience of the staff." It is to be remarked that the letter contains no complaint that the protests referred to were unavailing.

In concluding their letter the ladies say: "It is not fair to assume as facts all the editorial comments made on nursing affairs in journals dealing with nursing which are not conducted by nurses." That is undoubtedly true, but, as concerns the

attitude of certain members of the nursing sisterhood, it is not reassuring to read such waspish expressions as another correspondent, "Medicus," cites from the *American Journal of Nursing* and the *British Journal of Nursing*. We presume that those journals are "conducted by nurses," and probably they would not speak so rancorously of the medical profession if they did not feel reasonably sure of the approval of a large proportion of their readers. It seems to us that ladies eminent and influential in the nursing profession might be rendering a service to their sisterhood by striving to repress the feeling that prompts such asperity, a feeling that we believe to be perfectly unjustified. It is our further conviction that it is unwise to interpret criticism as a sign of hostility. Of course it is for the nurses to decide whether they will adopt an attitude of resentment toward the medical profession or endeavor to search out and correct their own possible foibles.

NEIGHBORHOOD DREAD OF INFECTIOUS DISEASES.

Whenever it is intended to establish a smallpox hospital, a howl of protest is sure to go up from the people of the locality in which it is designed to place it, and at any stage of the building process the structure is apt to be wrecked by indignant citizens. If we look upon their fear as unwarranted, and certainly we must so regard it, how much more must we deprecate local opposition to the establishment of a resort for consumptives! In the case of smallpox the dread is quite natural, for the disease is so loathsome and to recent generations so unfamiliar as to be thought of only with horror. But in the case of pulmonary consumption there is no such excuse, though its comparatively recent classification as infectious has probably led a great portion of the public to view its presence among them as threatening their safety. They ought easily, however, to be taught to discriminate between dangers which they can hardly avoid and those which they would almost have to take pains to incur.

It is perfectly proper that cases of tuberculous disease should be reported to sanitary officials and that ordinances against expectorating in public places should be enacted and enforced, but it ought all to be done in such a way as not to impress the public with unnecessary fear. It would be well, we think, if we could give the people to understand that the infectiousness of tuberculous disease was about on a par with that of malarial fever, the thought of which seldom if ever gives rise to a panicky feeling. It might even be wise

to cease to use the word infectious in relation to such diseases, expressing our ideas of their communicability by words less apt to be misconstrued.

But it would take a long time to teach the people by any other method than demonstration the absolute innocuousness of sanatoria for consumptives, and therefore every demonstration of that character is to be welcomed. A notable lesson of the sort is to be drawn from Dr. Way's article, published in this issue of the *Journal*. Dr. Way makes no contention that is not abundantly verified by the general observation of medical men, but his array of concrete facts ought to go far toward allaying the timidity shown by communities with regard to the use of their districts as places of resort for consumptives.

FIRST AID FOR THE WOUNDED SOLDIER OR SAILOR.

The President has always shown himself solicitous for the health and welfare of our soldiers and sailors. In conformity to this solicitude there was appointed in January, by his order, a joint board of army and navy officers to consider improvements in the first aid service and in uniformity of equipment for the medical departments of the two branches of the national forces. In the *Army and Navy Journal* for May 12th we find an interesting summary of the board's report.

The board recommends that the first aid packet, to be attached to the enlisted man's belt, should be simple in construction, having but few separate parts and being easy of use even by persons not familiar with it. The contents should be so arranged that nothing which is to come in contact with a wound should require handling, a precaution of which the value is fully evident. They should be aseptized with mercury bichloride, and the container should be metallic, preferably of brass or copper, waterproof, hermetically sealed, and easy to open.

Gauze compresses and attached gauze bandages should be prominent among the contents, and additional materials of the sort, in a bag or small box, should be issued to each dressing station on board ship and to each seacoast battery before an action, the officers and men having been taught how to make use of them.

The Stokes splint stretcher is recommended for both the army and the navy, for use on transports, on hospital ships, and at coast artillery stations. It is also urged that experiments be undertaken with a view to the development of a practical wheeled litter for the army. The Eng-

lish "rapid transit galloping ambulance" is reported as specially suitable for cavalry and field artillery, also for the navy in case of need, and its production in the United States is recommended. The orderly pouch and the Hospital Corps pouch of the army are regarded as most suitable for the navy also, and it is recommended that the general equipment of sailors while in active service on land should be the same as that of the army, including tentage, cooking and mess outfits, and bedding. Two model hospital ships, one for the army and one for the navy, should be built, each of which may serve as the basis of future improvements.

THE AMERICAN SOCIETY OF TROPICAL MEDICINE.

The American Society of Tropical Medicine was founded in 1903, chiefly through the energy of Dr. Thomas H. Fenton, of Philadelphia. The organization has just completed the third year of its existence and has issued a volume containing the papers read at its various meetings, together with its charter, by laws, and lists of officers and members. The first paper is by Dr. James Carroll, entitled *A Brief Review of the Ætiology of Yellow Fever*. This is followed by papers by Dr. Joseph McFarland, on *The Leishman-Donovan Blood Parasites* (a synopsis); by Dr. F. Creighton Wellman, on *Relapsing Fever: Its Occurrence in the Tropics and Its Relation to "Tick Fever" in Africa* and *Notes on the Tropical Diseases of the Angola Highlands*; by Dr. Seneca Egbert, on *The History of Panama and the Panama Canal*; by Dr. Joseph McFarland, on *The Isthmian Canal Zone*; and by Dr. Roland G. Curtin, on *The Medical Conditions of the Isthmus of Panama, with Other Notes*.

The society promises to serve a useful purpose by bringing together men interested in the advancement of knowledge of tropical medicine, by the promotion of discussion, by the publication of the results of original investigation, and by the collection of specimens illustrative of tropical pathology, tropical conditions of life, and tropical parasitology, which may be instrumental in rendering life in the tropics safer and more agreeable for the white man.

In a recent issue of the *Journal of Tropical Medicine*, of London, Mr. James Cantlie gives the reasons for the organization of a tropical medical association in England, in affiliation with the British Medical Association. The American Society of Tropical Medicine has already shown the wisdom of its foundation, and our English cousins will surely find such an organization of great value.

News Items.

NEW YORK CITY AND STATE

Change of Address.—Dr. Isador Goldstein, to 135 West One Hundred and Twenty-third Street.

Personal.—Dr. M. Belle Brown, professor of clinical gynecology and dean of the faculty of the New York Medical College and Hospital for Women, has resigned. Her connection with the teaching faculty of the college extends over a period of twenty-seven years.

A Memorial Tablet for the Late Dr. George Ryerson Fowler.—At eight o'clock, on Sunday evening, May 27th, a memorial tablet for the late Dr. Fowler will be unveiled, with appropriate ceremonies, at the library building of the Medical Society of the County of Kings, 1313 Bedford Avenue, Brooklyn.

A Tribute to Dr. Austin Flint.—On the occasion of Dr. Flint's retiring from the professorship of physiology, the class of 1909 of Cornell University Medical College presented him with a silver loving cup which bore the following inscription: "Presented to Austin Flint as a token of love and esteem. From the Class of 1909, C. U. M. C."

The Buffalo Academy of Medicine.—The following programme was arranged for a meeting of the Section in Obstetrics and Gynecology, held on Tuesday, May 22nd: (a) Obstetrical Amenities, by Dr. Stephen Y. Howell; (b) Diagnosis of Gonorrhœa in the Female, by Dr. J. Henry Dowd.

The Queens-Nassau Counties (N. Y.) Medical Society will hold its annual meeting at Mineola, N. Y., on Tuesday, May 29th. The following programme has been prepared for the occasion: Paper: Perforating Ulcer of the Duodenum, with Report of a Case, by Dr. Carl Boettiger, Long Island City; The Surgical Treatment of Indigestion, by Dr. E. S. McSweeney, New York; Ocular Complications of Diabetes. Treatment of Ocular Complications of Syphilis, by Dr. Richard Kalish, New York.

The East Side Physicians' Association of the City of New York.—The following programme was arranged for a meeting, held on Friday, May 18th: 1. Presentation of patients, reports, pathological specimens, new instruments, etc.; (a) A New Model Cystoscope, by Dr. S. W. Schapira; (b) Fibroids, by Dr. H. J. Boldt; (c) Monstrosity: Thoracopagus Bibrachius Quadripus, by Dr. William Cohn; (d) Papers: Treatment of Infantile Paralysis, by Dr. C. Keppler; (e) Dilatation of Gravid and Nongravid Uteri, by Professor Alfred Dührssen, of Berlin; discussion by Dr. J. Riddle Goffe, Dr. William S. Stone, Dr. Herman J. Boldt, Dr. Ralph Waldo, Dr. S. W. Bandler, Dr. A. Brothers, and other members.

Books and Instruments for the Physicians of San Francisco.—The Association of American Physicians has appointed a committee, with Dr. Charles L. Dana as chairman, to secure books and journals for the medical men and the medical libraries of San Francisco. This committee makes an appeal to the physicians of New York in behalf of its purpose. Practically all the San Francisco physicians have lost their books and their instruments, and their medical libraries have been destroyed. The medical relief committee of Manhattan, the Bronx, and Richmond, has volunteered to take charge of all books, journals, and instruments which may be contributed. If such contributions are marked "For the San Francisco Physicians," and sent directly to the New York Academy of Medicine, 17 West Forty-third Street, New York, they will be forwarded to Dr. Henry Gibbons, president of the San Francisco County Medical Society and chairman of the local relief committee.

Infectious Diseases in New York:

Report made to the Bureau of Records of the Health Department, following statement of new cases and deaths reported to the two weeks ending May 10, 1906:

| | May 10 | | May 12 | |
|---------------------------|--------|---------|--------|---------|
| | Cases. | Deaths. | Cases. | Deaths. |
| Total of cases | 15 | 4 | 27 | 9 |
| Scarlet fever | — | — | 3 | 2 |
| Adenoid fever | 83 | — | 50 | — |
| Mumps | 1,252 | 37 | 1,068 | 32 |
| Measles | 305 | 28 | 225 | 28 |
| Whooping cough | 27 | 5 | 56 | 4 |
| Diphtheria | 379 | 54 | 287 | 34 |
| Tuberculosis | 383 | 193 | 340 | 153 |
| Cerebro-spinal meningitis | 31 | 32 | 32 | 32 |
| Total | 2,176 | 353 | 2,228 | 294 |

Society Meetings for the Coming Week:

MONDAY, May 28th.—Medical Society of the County of New York; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

TUESDAY, May 29th.—Rome, N. Y., Medical Society; Boston Society of Medical Sciences (private).

WEDNESDAY, May 30th.—Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society (Pittsfield).

FRIDAY, June 1st.—Manhattan Clinical Society, New York; Clinical Society of the New York Post Graduate Medical School and Hospital; Baltimore Clinical Society.

SATURDAY, June 2nd.—Manhattan Medical and Surgical Society, New York (private); Miller's River, Mass., Medical Society.

PHILADELPHIA AND THE MIDDLE STATES

The Annual Festival of the Presbyterian Hospital in Philadelphia was held at the Richardson Home at Devon, Pa., on Saturday, May 19th.

The Alumnae Association of the Training School for Nurses of the Woman's Hospital of Pennsylvania, at a meeting held on May 10th, passed a resolution advocating the State registration of nurses.

Scientific Society Meetings in Philadelphia for the Week Ending June 2, 1906.—Monday, May 28th, Mineralogical and Geological Section, Academy of Natural Sciences. Friday, June 1st, American Philosophical Society.

The Training School for Nurses, of the German Hospital, held its annual commencement exercises on May 15th. The following women received the diploma of the school and the official badge; Mary Louise Knudsen, Mary Elizabeth Gearhart, Florence Irene Trout, Mary Butz, Isabel M. Collins, Bertha Elliott, and Eva Pearl Silver.

The Philadelphia Alumni Association of the University of Maryland was organized on the evening of May 17th, at the residence of Dr. Charles P. Noble, 1509 Locust Street. Addresses were made by Dr. Oregon M. Dennis, of Baltimore, and Dr. Eugene F. Ardell, of Baltimore, the president and the secretary of the general alumni association.

The Philadelphia Branch of the American Pharmaceutical Association held its third stated meeting on Monday evening, May 21st, at the College of Physicians. The meeting was devoted to the discussion of Self Medication and the Evils of Counter Prescribing. Dr. W. M. L. Coplin, Dr. Thomas R. Neilson, and Professor Charles H. La Wall read papers.

The Beaver Valley General Hospital Training School for Nurses held its fourth annual commencement exercises at New Brighton, Pa. The following women received the diploma of the school: Miss Elizabeth L. Walker, of Salem, Ohio; Mrs. Alice M. Price, of New Brighton; Miss Martha M. Frankland, of East Palestine, Ohio; Miss Edith Maud Day, of Beaver Falls; and Miss May Elizabeth Hobaugh, of New Brighton.

The Annual Meeting of the Association of Trustees and Physicians of State and Incorporated Hospitals for the Insane of Pennsylvania was held at the Pennsylvania Hospital for the Insane, Philadelphia, on Thursday, May 17th. A discussion on the care of the indigent insane of Pennsylvania was participated in by Dr. John B. Chapin, superintendent of the Pennsylvania hospital for the insane, Mr. Thomas C. Zimmerman, a trustee of the Wernersville hospital for the insane, and Mr. Cadwalader Biddle, secretary of the State board of public charities.

The Thirty-third National Conference of Charities and Correction was held at Philadelphia from May 9th to May 16th. The opening meeting was held at 8 p. m. on the 9th, in the Academy of Music. Addresses were delivered by Hon. Grover Cleveland, Hon. John Weaver, Mayor of Philadelphia; Dr. Talcott Williams, of Philadelphia; Mr. Robert W. de Forest, of New York; Hon. John A. Johnson, Governor of Minnesota; Hon. Henry B. F. Macfarland, of Washington; and Hon. Julian W. Mack, of Chicago. Discussions of interest to medical men were frequent during the conference. Dr. Thomas F. Kane, of Hartford, Conn., opened a discussion on State and Municipal Control of Tu-

berculosis, which was continued by Dr. Marcyk P. Ravenel. Dr. Charles P. Emerson, of Baltimore, opened a discussion on Free Medical Help for the Poor. Dr. S. E. Forman, of Washington, spoke on the Standards of Living. Dr. Lightner Witmer, of Philadelphia, spoke on the Need of Special Care and Training of Defectives. Dr. J. Moorehead Murdock, of Polk, Pa., Dr. T. C. Fitzsimmons, and Dr. W. M. L. Coplin, of Philadelphia, spoke of the Aims and Possibilities of the New Institution for Feeble Minded and Epileptics, at Spring City, Pa. A paper on the Care of the Sick was read by Dr. Arthur B. Aucker. A paper on Instructing Children in Methods of Prevention of Disease was read by Dr. H. J. Scherch, of St. Louis. A paper on the Desirability of Hospitals for the Treatment of Contagious Diseases was read by Dr. Matthias Nicoll, Jr., of New York. Dr. J. Madison Taylor, of Philadelphia, read a paper on Difficult Boys. Dr. Frances C. Van Gasken, of Philadelphia, read a paper on Housing Conditions in Philadelphia. Dr. Samuel R. Cunningham, of Lafayette, Indiana, and Dr. W. H. C. Smith, of Godfrey, Ill., read papers on Preventable Causes of Defectiveness.

BOSTON AND NEW ENGLAND.

The Lawrence (Mass.) Medical Club.—At the last meeting of this club, held at the office of Dr. F. B. Flanders, a paper on Diseases of the Frontal Sinus was read by Dr. H. P. Mosher, of Boston. A committee was appointed to confer with the milk inspector, with the view of obtaining a purer milk supply for the city.

The Mortality of Boston.—The number of deaths reported to the Board of Health, for the week ending May 12th, was 226, as against 230 the corresponding week last year, showing a decrease of 4 deaths, and making the death rate for the week 19.80. The number of cases and deaths from infectious diseases was as follows: Diphtheria, 44 cases, 1 death; scarlatina, 28 cases, 1 death; typhoid fever, 12 cases, 2 deaths; measles, 101 cases, 2 deaths; tuberculosis, 49 cases, 12 deaths; smallpox, no cases, no deaths. The deaths from pneumonia were 29, whooping cough 5, heart disease 28, bronchitis 5, marasmus 10. There were 15 deaths from violent causes. The number of children who died under one year of age was 48, under five years of age 79, of persons over sixty years of age 43; deaths in public institutions 73.

The Maine Medical Association will hold its fifty-fourth annual meeting at Portland, on Wednesday, Thursday, and Friday, June 13, 14, and 15, 1906. The following titles are included in the programme: The General Practitioner, Dr. H. O. Curtis, Topsham; Dilatation of the Stomach, Dr. A. H. Weeks, Portland; Obstetrics in Country Practice, Dr. A. G. Wiley, Bar Mills; Chronic Lead Poisoning, Dr. George H. Shedd, North Conway, N. H.; A Consideration of the Carbohydrates Used in the Artificial Feeding of Infants, Dr. F. P. Webster, Portland; Professional Economics and the Fee Table, Dr. C. A. Moulton, Hartland; Management of the Child During the First Year of Life, Dr. A. J. York, Wilton; Functional Disorders of the Nervous System Following Accidents, Dr. George M. Woodman, Westbrook; Pneumonia, Dr. H. L. Bartlett, Norway; Dilatation of the Stomach, Dr. A. H. Weeks, Portland; Obstetrics in Country Practice, Dr. A. G. Wiley, Bar Mills; Chronic Lead Poisoning, Dr. George H. Shedd, North Conway, N. H.; Cæsarean Section in Maine, Dr. Stanley P. Warren, Portland; Prostatectomy, Dr. Alfred King, Portland; Abuse of Medical Charity, Dr. H. H. Cleveland, Auburn; Some of the Uses and Diseases of the Human Hand, Dr. J. A. Donovan, Lewiston; Constitutional Treatment in Local Diseases, with Special Reference to Diseases of the Eye, Dr. H. T. Clough, Bangor; Annual Oration, Dr. Charles S. Minot, of Boston: The Relation of Embryology to Medical Progress.

BALTIMORE AND THE SOUTH

Personal.—Dr. Frank A. Jones, of Memphis, Tennessee, has been elected professor of physical diagnosis and clinical medicine in the Memphis Hospital Medical College.

The Louisiana State Medical Society.—At the twenty-seventh annual meeting, held at New Orleans, on May 8th, 9th and 10th, the election of officers resulted as follows: Dr. H. Dickson Bruns, of New Orleans, president; Dr. Charles McVea, of Baton Rouge, first vice-president; Dr. George F. Wilson, of Bienville, second vice-president; Dr. A. J. Perkins, of Lake Charles, third vice-president; Dr.

P. L. Thibaut, of New Orleans, reelected secretary; and Dr. Jules Lazard, of New Orleans, treasurer.

The Kansas Medical Society.—At the annual meeting, held at Topeka, on May 9th, 10th, and 11th, officers were elected as follows: President, Dr. L. L. Uhls, superintendent of the State hospital at Osawatimie; first vice-president, Dr. W. F. Sawhill, Concordia; second vice-president, Dr. J. P. Kaster, chief surgeon of the Santa Fé hospital, Topeka; third vice-president, Dr. P. S. Mitchell, Iola; secretary, Dr. Charles S. Huffman, Columbus; treasurer, Dr. L. H. Munn, Topeka; councillors, first district, Dr. C. C. Goddard, Leavenworth; second district, Dr. M. F. Jarrett, Fort Scott; third district, Dr. F. M. Dailey, Beloit; fourth district, Dr. O. J. Furst, Peabody; fifth district, Dr. H. L. Alkire, Topeka; sixth district, Dr. W. H. Graves, Dodge City; seventh district, Dr. J. E. Sawtelle, Kansas City; eighth district, Dr. A. L. Cludas, Minneapolis; librarian, Dr. S. G. Stewart, Topeka; editor, Dr. G. H. Hoxie, University of Kansas. The delegates chosen for the American Medical Association were: Dr. L. Reynolds, of Holton, and Dr. C. E. Bowers, of Wichita. Kansas City was decided upon as the next meeting place.

The Mortality of Baltimore.—The report of the health department for the week ending May 12th, showed a total of 197 deaths, as compared with 185 the corresponding week of last year, 217 in 1904, and 165 in 1903. The annual death rate in a thousand of population was: Whole, 17.89; white, 13.94; colored, 39.00. The principal causes of death were: Typhoid fever, 4; measles, 1; scarlet fever, 2; whooping cough, 2; diphtheria, 2; influenza (la grippe), 1; consumption, 33; cancer, 8; apoplexy, 3; organic heart diseases, 15; bronchitis, 5; pneumonia, 23; Bright's disease, 17; congenital debility, 9; lack of care, 5; old age, 4; suicides, 2; accident, etc., 13. The following cases of infectious diseases were reported, as compared with the corresponding week of last year:

| | 1905. | 1906. |
|------------------------|-------|-------|
| Smallpox | 0 | 1 |
| Diphtheria | 23 | 21 |
| Pseudomembranous croup | 0 | 1 |
| Scarlet fever | 10 | 16 |
| Typhoid fever | 9 | 21 |
| Measles | 214 | 19 |
| Mumps | 1 | 3 |
| Whooping cough | 1 | 10 |
| Chickenpox | 4 | 8 |
| Consumption | 9 | 5 |

CHICAGO AND THE WEST.

Conference of Health Officers in Michigan.—The ninth general conference of health officers will be held, under the auspices of the Michigan State Board of Health, at Grand Rapids, on Thursday and Friday, May 31 and June 1, 1906.

The Harrison County (Ind.) Medical Association.—At a meeting, held at Corydon, on Wednesday, May 9th, officers for the ensuing year were elected as follows: President, Dr. Z. T. Funk, of Corydon; vice-president, Dr. P. H. Schoen, of Blackcreek; secretary, Dr. John C. Bittorff, of Corydon.

The Wayne County (Mich.) Medical Society.—At a meeting, held at Detroit, on Monday evening, May 7th, the subject for discussion was Criminal Operations. Nominations for officers for the ensuing year were made, as follows: President, Dr. J. H. Carstens; vice-presidents, Dr. Lucy J. Utter, Dr. C. W. Hitchcock; secretary, Dr. C. S. Oakman; treasurer, Dr. W. E. Ford.

A Tribute to Dr. McGraw, of Detroit.—Dr. Theodore A. McGraw, president of the Detroit College of Medicine, was made the recipient of a silver loving cup, on the evening of May 11th, from the alumni association of that college. The presentation took place at a reception of the alumni, tendered by Dr. McGraw, at his residence. Dr. Louis J. Hirschman made the presentation, on behalf of the alumni association.

The Utah State Medical Association.—At the annual meeting, held at Salt Lake City, on May 8th and 9th, the election of officers resulted as follows: Dr. Frederick Clift, of Provo, president; Dr. A. C. Behle, of Salt Lake City, first vice president; Dr. E. M. Conway, second vice-president; Dr. W. S. Ellerbeck, of Salt Lake, secretary; Dr. J. N. Harrison, of Salt Lake, treasurer; trustees, Dr. J. W. Aird, of Provo, Dr. Philo E. Jones, and Dr. I. A. E. Lyons, of Salt Lake. These were chosen for three years.

The Illinois State Medical Society.—The annual meeting was held at Springfield, on May 15th, 16th, and 17th. The following officers were elected: President, Dr. J. F. Percy,

Galesburg; first vice-president, Dr. L. H. A. Nickerson, Quincy; second vice-president, Dr. J. H. Stowell, Chicago; treasurer, Dr. E. J. Brown, Decatur; secretary, Dr. E. W. Weis, Ottawa. Dr. George W. Webster and Dr. C. W. Nix, of Chicago, were elected delegates to the American Medical Association. The time and place for the next meeting of the society was fixed upon for the third Tuesday in May, 1907, at Rockford.

The Montana State Medical Association.—At the annual meeting, held at Butte, on May 9th and 10th, officers for the ensuing year were elected as follows: President, Dr. O. Y. Warren, superintendent of Warm Springs insane asylum; first vice-president, Dr. Thomas D. Tuttle, of Helena, secretary of the State board of health; second vice-president, Dr. L. R. Packard, of Whitehall; third vice-president, Dr. Edgar F. Dodds, of Missoula; secretary, Dr. Grace Wilson Cahoon, of Butte; treasurer, Dr. W. W. Taylor, of Kalispell. Dr. Cahoon was reelected secretary of the association against her protest. She expressed an earnest desire to relinquish the office after having served two terms. Dr. Donald Campbell, the retiring president, was elected to represent Montana at the annual session of the American Medical Association. Billings was chosen for the next place of meeting.

GENERAL.

The American Association of Life Insurance Examining Surgeons will hold its seventh annual meeting at Boston, on Monday, June 4th. The headquarters of the association will be at the Hotel Thorndike.

The American Laryngological Association will hold its twenty-eighth annual congress at Niagara Falls, N. Y., on Thursday, Friday, and Saturday, May 31, June 1, and 2, 1906. The sessions will be held at the New Prospect House.

American Society for the Study of Alcohol Inebriety and Other Narcotics.—The thirty-sixth annual meeting of this society will be held in the parlors of the Hotel Vendome, Commonwealth Avenue, Boston, Mass., June 5, 6, and 7, 1906. The sessions will be held from 9 a. m. to 10.30 a. m. each day.

The National Volunteer Emergency Service Medical Corps.—The commandant, Dr. J. Adelphi Gottlieb, has recently made the San Francisco disaster the occasion for issuing a circular calling attention to the promptness and efficiency of the relief measures which an organization of this kind would be able to carry out in such emergencies.

Resignation of Professor Ostwald.—Professor Wilhelm Ostwald has resigned the professorship of chemistry at the University of Leipzig, as a result of his displeasure at the lack of support accorded to his chemical researches. He will establish a private laboratory. Dr. Ostwald lectured at Harvard a few months ago under the arrangement for the exchange of professors between American and German universities.

The Association of American Physicians.—At the twenty-first annual meeting, held at Washington, D. C., on Tuesday and Wednesday, May 15th and 16th, officers for the ensuing year were elected as follows: President, Dr. Francis P. Kinnicutt, of New York; vice-president, Dr. James Tyson, of Philadelphia; secretary, Dr. Henry Hun, of Albany; recorder, Dr. S. Solis-Cohen, of Philadelphia; treasurer, Dr. J. P. Crozer Griffith, of Philadelphia; councillor, Dr. Lewellys F. Barker, of Baltimore.

The American Gastroenterological Association will hold its ninth annual meeting at Boston, on Monday and Tuesday, June 4 and 5, 1906. Following is the programme: The president's address: The Mutual Obligations of the Surgeons and Internists in the Proper Development of Gastric Surgery, Dr. H. W. Bettmann, Cincinnati; Remarks on Banti's Disease, Dr. Max Einhorn, New York; The Reflexes Controlling the Peristaltic Movements of the Esophagus, Dr. S. J. Meltzer, New York; Achylia Gastrica with Report of Case, Dr. Franklin W. White, Boston; Hypersecretion Associated with Cirrhosis of the Liver, Dr. Henry F. Hewes, Boston; The Kidney in Gastroenterology, Dr. A. L. Benedict, Buffalo; A Further Consideration of the Gastrointestinal Disturbances Associated with Migraine, Dr. John A. Lichty, Pittsburgh; Appendicitis Larvata, Dr. A. D. Kohn, Chicago; A Case of Pyloric Stenosis in a Child of Five Years, Dr. S. W. Lambert, New York; Gastric Ulcer in Childhood, Dr. Harry Adler, Baltimore; Recent Studies in the Diagnosis of Gastric Ulcer, Dr. J. C.

Hemmeter, Baltimore; The Subsequent History of Thirty-two Cases of Chronic Gastric Ulcer Previously Reported, Dr. F. H. Murdoch, Pittsburgh; Spontaneous Rupture of the Colon with Violent Peristalsis, with Report of Fatal Case, Dr. G. W. McCaskey, Ft. Wayne; A Case of Hyperplastic Colitis, Dr. Morris Manges, New York; On the Influence of Rest, Exercise and Sleep on Gastric Digestion, Dr. Julius Friedenwald, Baltimore; Habitual Constipation Viewed from the Standpoint of Modern Evolution of Dietetics Is a Physiological Phenomenon, Dr. C. D. Spivak, Denver; Demonstration of Gastric and Intestinal Movements, Dr. W. B. Cannon, Boston (Physiological Laboratory).

The American Academy of Medicine will hold its thirty-first annual meeting in the Hotel Brunswick, Boston, on Saturday and Monday, June 2nd and 4th. The following programme will be presented: Papers: Senility, by Dr. A. L. Benedict, Buffalo, N. Y.; Manual Training for Medical Students and the Principles of Psychotherapy, by Dr. Gershom H. Hill, Des Moines, Ia.; Medical History, by Dr. James A. Spalding, Portland, Me.; The Standing of the Medical Man in Panama, by Dr. Charles L. Phillips, Ancon Hospital, Panama. Opportunity will be given for the discussion of each paper after its reading. The president's address: Heredity and Environment as Causes of Delinquency and Crime, by Dr. Donly C. Hawley, Burlington, Vt.; Symposium: How May the Medical and Teaching Professions Cooperate to Improve the Moral, Mental, and Physical Condition of the Young. Presentation of the General Subject, by Dr. S. A. Knopf, New York city; The Duty of the Family Physician in Regard to the Proper Mental and Physical Development of the Children Under His Care from Infancy to Adolescence, by Dr. Dudley A. Sargent, Harvard University; The Training of the Mentally and Morally Defective Child, by Dr. M. T. E. Groszmann, Plainfield, N. J., of the School for Atypical and Nervous Children (by invitation); The Sanitary Regulation of the School Room with Reference to Vision, by Dr. Casey A. Wood, Chicago; The Advantages or Disadvantages of Coeducation After the Age of Twelve Years, by (a) President G. Stanley Hall, of Clark University; (b) Dr. William T. Smith, Dartmouth College; The Dangerous Influences of Overtaxing the Girl's Mind, Particularly at the Age of Puberty, by (a) Dr. Augustus P. Clarke, Cambridge, Mass.; (b) Dr. L. Duncan Bulkley, New York city; (c) Dr. Edward Cowles, McLean Hospital, Waverly, Mass.; The Education of Pupils in Schools Regarding Sexual Life, and the Danger of Such Contagions as Gonorrhoea and Syphilis by (a) Dr. W. T. Herdman, University of Michigan; (b) Dr. G. V. N. Dearborn, Tufts College; discussion to be opened by G. Stanley Hall, L.L.D., president of Clark University, by invitation, and Dr. Helen C. Putnam, of Providence, R. I.

The American Confederation of Reciprocating, Examining, and Licensing Medical Boards.—A meeting was held at Columbus, Ohio, April 25, 1906. Dr. W. A. Spurgeon, president, Muncie, Ind., in the chair; Dr. B. D. Harison, secretary, Detroit, Mich. Minutes of the meeting of April 27, 1905, at Indianapolis, were approved as read.

The report of committee on uniform entrance and graduation requirements recommended as a substitute for entrance requirements to medical colleges, adopted at the Indianapolis meeting, 1905, the following: *Entrance Requirements to Medical Colleges.*

After July 1, 1906, the minimum requirement for registration in a medical college shall be a recognized diploma from a four year high school, academy, college or university, or a recognized equivalent certificate, such diploma or certificate having the following minimum standard: Academic work and examinations, 60 counts, required, 30 counts (after 1906, 35 counts); English, 10 counts; Mathematics, 10 counts; Latin, 5 counts (10 counts after 1906); Physics, 5 counts; Required, 30 counts (35 counts after 1906); Optional, 30 counts (after 1906, 25 counts); Greek, 10 counts; French, 10 counts; German, 10 counts; Spanish, 10 counts; English, 10 counts; History, 10 counts; Botany, 5 counts; Zoölogy, 5 counts; Biology, 5 counts; Chemistry, 5 counts; Physical Geography, 5 counts; Physiology and Hygiene, 5 counts; Drawing, 5 counts; Trigonometry, 3 counts; Optional, 30 counts (after 1906, 25 counts). A count to represent a recitation once a week for a school year. A diploma to be granted only after a recognized four year course. Conditions not to exceed a total of 15 counts. The report was adopted.

Note.—The above given schedule had been previously adopted by the National curricula committee of the Association of American Medical Colleges.

Report of Committee on Modifications in Reciprocal Qualifications.

This committee reported the following substitute under (A) Prerequisite Credentials adopted April 27, 1905, at Indianapolis: As a prerequisite to reciprocal registration the applicant therefor shall file in the offices of the boards of the State of which he is a licentiate and the State where reciprocal registration is sought, such evidence of good moral and professional character as may be demanded by said boards, and such evidence at the discretion of either board may include proof of membership and good standing in a recognized medical society, and such membership may be considered in connection with the other evidence of character presented. That the requirement under (B) of an affidavit relative to the abandonment of practice in the State from which applicant came, to be stricken out. Likewise the comments upon qualifications "A" and "B" in the 1905 minutes to be stricken out. That in Qualification No. 1, adopted by the confederation at Indianapolis, April 27, 1905, the words "and provided that the applicant had been engaged in the reputable practice of medicine at least one year in the State issuing the certificate upon which endorsement is sought" be stricken out. The committee recommended the recognition of a primary or junior board examination at the completion of the second year in a recognized medical college, as follows: That a certificate issued by a State medical board covering credits received in a primary or junior examination by said board may be received and given credit by the board of another State, provided such primary or junior examination shall only include the following subjects, which must have been completed to the end of the second year at least in a recognized medical college, in accordance with the standard medical curriculum of the confederation, namely: Anatomy, Physiology, Chemistry, Bacteriology, Toxicology, Histology, Embryology. The report was adopted.

Report of Committee on Advanced Standing.—This committee reported:

The following substitute under first of the minutes of the 1905 meeting at Indianapolis is recommended: That graduates holding the degrees of A. B., B. S., or equivalent qualifications, from a recognized college or university, may be given credits not exceeding one year, provided the applicant for such credits shall produce evidence which shall satisfy the State board of medical examiners in the State in which credit is asked, that the holder of such degree has taken within 10 per cent. of the work embraced in the minimum standard of requirements of the American confederation of reciprocating, examining, and licensing medical boards, in the following subjects: Bacteriology, Histology and Embryology, Chemistry and Toxicology, Osteology, Comparative Anatomy, Physiology, and provided that any literary college which shall undertake this work shall in its catalogue announce that it will give this first year of a medical course. The report was adopted.

Report of Committee on Uniformity of Forms.—This committee reported: the committee would recommend a uniformity in reciprocal license application blanks, and that the following requirements at least be considered essential: (A) A question which will reveal the past conduct and proposed attitude toward engaging in itinerant practice or objectionable advertising business. (B) A comprehensive physical description sworn to by applicant and endorsed by those who make affidavits, as to his moral and professional standing; affidavits by applicants to be positive instead of "to the best of his knowledge and belief." Intended residence not necessarily required. (C) A certified copy of license which is used as a basis for reciprocity. (D) A detailed statement of preliminary and medical college education. The committee would further recommend that a committee be appointed to continue the consideration of this subject and report more fully at the next meeting. The report was adopted and the committee continued.

The president appointed the following executive committee, which shall include the president and secretary: Dr. Moses S. Canfield, Indiana; Dr. J. V. Stevens, Wisconsin; Dr. George H. Matson, Ohio; Dr. W. A. Spurgeon, Indiana, was reelected president; Dr. B. D. Harison, Michigan, was reelected secretary.

Notes from Report of Secretary.—The following States are members of the confederation: Michigan, Wisconsin,

Indiana, Iowa, Kansas, Kentucky, Nebraska, Maryland, Georgia, Illinois, Ohio, North Dakota, Nevada, Oklahoma. The following States have joined the confederation since May 1, 1905: Nevada and North Dakota. The following States reciprocate under qualification No. I only: Illinois, Ohio, New Jersey, North Dakota, Virginia, Wyoming, and South Carolina. The following States reciprocate under qualifications I and II: Michigan, Wisconsin, Indiana, Iowa, Kansas, Nebraska, Maryland, Minnesota, Vermont, Missouri, Nevada, Maine, Georgia, and District of Columbia.

It will be noted that the following States reciprocate practically under the qualifications of the confederation, although not actually members of the confederation, but probable members in the near future: Minnesota, Vermont, Missouri, New Jersey, Maine, Virginia, Wyoming, South Carolina, District of Columbia, and South Dakota. Ohio reciprocates at the present time under qualifications No. I only, but recently has obtained an amendment from her legislature allowing for reciprocity under both qualifications I and II. Maine has also recently obtained a similar arrangement.

Since the last meeting of the confederation, Vermont has obtained from her legislature power to reciprocate under both qualifications I and II.

District of Columbia reciprocates with any State, Territory or insular possession of the United States, and with any foreign country, under the conditions set forth in the Act of January 19, 1905.

Illinois reciprocates with Indiana, Iowa, Kansas, Maine, Maryland, Michigan, Minnesota, Nebraska, New Jersey, North Dakota, Ohio, South Carolina, Vermont, Wisconsin, and Wyoming, under qualification I.

Indiana reciprocates with Iowa, Kansas, Maine, Michigan, Wisconsin, Georgia, Kentucky, Missouri, and Nebraska, under qualifications I and II, and Illinois, Ohio, and Virginia under qualification I only.

Iowa reciprocates with North Dakota, South Dakota, Nebraska, Kansas, Colorado, Wyoming, Nevada, Missouri, Minnesota, Wisconsin, Michigan, Illinois, Indiana, Kentucky, Maryland, South Carolina, Georgia, New Jersey, and Maine, under qualification I or II, as laws permit.

Michigan reciprocates with Wisconsin, Indiana, Iowa, Kansas, Nebraska, Maryland, Minnesota, Missouri, Nevada, Maine, Vermont, and Georgia, under qualifications I and II, and with Illinois, Ohio, New Jersey, North Dakota, South Carolina, Virginia, and Wyoming, under qualification I only, and with District of Columbia in individual cases.

Minnesota reciprocates with Iowa, Kansas, Michigan, Maine, Nebraska, and Wisconsin, under qualifications I and II, and with Illinois, Maryland, Missouri, Nevada, New Jersey, Ohio, South Carolina, South Dakota, and Wyoming under qualification I only.

New Jersey reciprocates with Maine, Vermont, New York, Ohio, Illinois, and Michigan, under qualification I. Her licenses are endorsed by Maine, Vermont, New York, Delaware, Virginia, South Carolina, Texas, Ohio, Illinois, Iowa, Michigan, Wisconsin, Minnesota, Missouri, Kansas, and Colorado.

North Dakota reciprocates with Maine, Vermont, Michigan, Illinois, and Wyoming, under qualification I.

Ohio reciprocates with Illinois, Indiana, Michigan, Wisconsin, Minnesota, Maine, New Jersey, Maryland, and Nebraska, under qualification I.

South Carolina reciprocates with Virginia, Texas, Maryland, New Jersey, Illinois, Maine, Michigan, Kansas, Ohio, Wyoming, Wisconsin, Minnesota, and Nevada, under qualification I.

Vermont reciprocates with Maine, Maryland, Michigan, New Jersey, Ohio, Illinois, North Dakota, Wyoming, and the District of Columbia (in special cases).

Wisconsin reciprocates with Michigan, Indiana, Maryland, Kentucky, Nebraska, Iowa, Virginia, Kansas, Georgia, District of Columbia, Oklahoma Territory, Maine, Minnesota, Wyoming, South Carolina and Missouri, under qualification I and II, and with Illinois, Ohio, North and South Dakota, under qualification I only.

Wyoming reciprocates with Colorado, Iowa, Nebraska, Georgia, Kansas, Wisconsin, Michigan, Missouri, North Dakota, Maine, Illinois, South Carolina, Minnesota, and Vermont, under qualification I.

Pith of Current Literature.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

May 17, 1906.

1. The Treatment of Chronic Diseases of the Heart by the Nauheim Methods: Its Indications and Contraindications. By FRANCIS P. KINNICUTT.
2. The Treatment of Organic Heart Disease by the Pneumatic Cabinet. By CHARLES E. QUIMBY.
3. Depletion in Heart Disease. By FREDERICK C. SHATTUCK.
4. The Use and Abuse of Digitalis. By FRANZ PFAFF.
5. A Biographical Clinic on Tchaikovsky (*Concluded*). By GEORGE M. GOULD.

1. Treatment of Chronic Diseases of the Heart by the Nauheim Methods.—Kinnicutt relates his experience with Nauheim baths. The springs which are used for bathing purposes are three in number. Their chief constituents are: Sodium chloride; calcium chloride; carbonic acid gas, free and in combination. A system has been elaborated which permits of a wide variation in the saline and carbon dioxide strength of the baths, and as they vary in their different constituents they are known as: The ordinary brine bath, the thermal brine bath, the thermal effervescent bath, the effervescent bath, the current thermal brine bath, and current effervescent bath. The author gives a description of the course of baths, twenty to thirty-five in number, and continues in stating that in healthy subjects the immediate effects of immersion in the baths is a notable diminution in the frequency of the pulse and a distinct increase in its volume. The exercises, known as the Schott resistance exercises, consist of movements designed to bring into successive and regulated action almost every collective system of voluntary muscles comprised in the human frame without undue strain on heart and lungs. The baths are indicated for enfeebled, relaxed, dilated hearts, with or without a murmur of muscular or relative mitral incompetency, following prolonged and exhausting diseases, the various acute infectious diseases, and also associated with anæmia of varied causation. Angina pectoris and general arteriosclerosis should be treated with great circumspection and only under certain conditions. Aneurysm and general emphysema are contraindications.

2. The Treatment of Organic Heart Disease by the Pneumatic Cabinet.—Quimby states that the pneumatic cabinet does not cure incurable organic heart lesions. After nearly thirty years' observation and reasonably careful study of the results obtained by other methods, in the hands of acknowledged authorities, and fourteen years' personal experience in the use of the cabinet, he is firmly convinced that it affords more immediate, extensive, and lasting relief than any other known measure. Its use is based upon strictly scientific principles, and the results are so plainly determined by established physical laws, as to justify its description as the nearest approach to the ideal method of treatment in organic cardiac disease.

3. Depletion in Heart Disease.—Shattuck treats the economy of work of the heart, that is, the removal of such conditions, mechanical or other, impeding the action of the heart. Cardiac dropsy is to be treated by depletion, venesection, leeching, or wet cups; purging; sweating; tapping of the serous cavities. Apocynum cannabinum, caffèine, calomel are indicated. The diet of the patient should be as dry as the features of the particular case permit.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

May 19, 1906.

1. Anatomy of the Inguinal Region. By T. CASEY WITHERSPOON.
2. Fatigue. By FREDERIC S. LEE.

3. Seroprognois of Tuberculous Pleurisies. Translated from the French of PAUL COURMONT, by MAZYCK P. RAVENEL.
4. The Treatment of Tetanus by Intraspinal Injections of Magnesium Sulphate for the Control of Convulsions. Report of Two Cases, with Discussion of the Method, By SAMUEL LOGAN.
5. Diagnostic Value of the Leucocyte Formula in Pertussis. By FRANK SPOONER CHURCHILL.
6. How to Suture the Wound in Early or Internal Operations for Appendicitis so as to Shorten the Indoor Confinement to One Week. Clinical Experience in Proof, By J. E. SUMMERS, JR.
7. Transmission of Bubonic Plague by Ship Rats. By AUGUST STRAUCH.
8. The Treatment of Arthritis Deformans with the Röntgen Rays. A Preliminary Report, By T. M. ANDERS, JUDSON DALAND, and G. F. PFAHLER.
9. The Country Doctor. By JOHN G. WILSON.
10. The Nasal Accessory Sinuses, By EMIL MAYER.
11. Tropical Neurasthenia, By W. W. KING.
12. Ætiology of Dementia Præcox. By WILLIAM A. WHITE.
13. Mercurial Nephritis with Uræmia. Report of a Fatal Case, By ROBERT N. WILSON.

1. Anatomy of the Inguinal Region.—Witherspoon summarizes his observations, based on some fifty dissections, as follows: The internal abdominal opening is located in the extraperitoneal fatty tissue. Hesselbach's ligament is formed by fibrous bundles which connect the outer end of the semilunar fold of Douglas with the inner margin of the internal abdominal opening. These bundles are developed chiefly in the extraperitoneal fatty tissue. Along the route of these bundles there exists between the fatty tissue and the transversalis fascia a close union. During intraabdominal pressure Hesselbach's ligament, due to its resistance, helps to increase the size of the internal abdominal opening. In the inguinal area the internal surface of the abdominal wall is divided into two planes by Hesselbach's ligament. Normally, the plane lateral to this ligament is only slightly anterior to the plane median to this ligament. When the muscles of the lateral plane are weakened by disease or are enfeebled through advanced age intraabdominal tension greatly exaggerates this difference. As the internal abdominal opening is situated at the junction of these two planes, the greater the difference the more patulous the opening and the greater the possibility of escape of viscus through the opening. The transversalis fascia does not join Poupart's ligament at any point. The deep crural arch is formed by the function of the transversalis and cremasteric fasciæ in the arch in front of the external iliac vessels as they pass into the thigh. The free posterior edge of Gimbernat's ligament is just external to and parallel with the deep crural arch. The fibrous bundles which pass out of the pelvis into the so called conjoined tendon give to the abdominal wall its chief strength internal to the inguinal canal. The aponeurosis of the transversalis muscle strengthens the wall just posterior to the external abdominal ring. The base of the so called conjoined tendon, the lateral margin of which is formed by the fibrous bundles which enter the tendon from out of the pelvis, is the constricting agent in femoral hernia. The external abdominal opening is situated between the dividing fibres of the aponeurosis of the external oblique muscle. The external abdominal ring is situated in the periaeponeurosis, which covers the external abdominal opening.

2. Fatigue.—Lee speaks of the theories which are current about fatigue. To Hippocrates and his contemporaries, as to us, excessive activity of a part of the body may cause general fatigue. To them the result is due to the product of liquefaction which is hostile to the body and affects chiefly the fleshy parts, there causing trouble until it takes itself off. To us the result is due to fatigue products which are toxic to the body, and affect chiefly the muscles, there caus-

ing trouble until they are either excreted or rendered innocuous by chemical change. Fatigue has been studied chiefly in the muscular and nervous tissues, it has been pointed out elsewhere, and our recognition of its signs is certain of being extended by future study. The chief sign is depression. The author describes his experiments.

3. Seroprognoſis of Tuberculous Pleurisies.—Courmont draws the following conclusions from the study of 115 cases of tuberculous pleurisy with effusion: The mortality is about 25 per cent. in cases where the pleural effusion has agglutinating power, and 75 per cent. where the fluid has no agglutinating power. Among patients with an agglutinating effusion the number of recoveries is large in proportion, as the agglutinating power is high. One can observe the agglutinating power of the effusion increase in proportion as the case progresses to recovery, and, on the contrary, diminish in those patients in whom the termination is near. These facts are a new proof of what we have held concerning typhoid fever, viz., that the agglutinating reaction is a reaction of defense, or at least, goes parallel with the reaction of resistance of the organism. It is in general in inverse proportion with the intensity of the resistance. The study of agglutination in tuberculous pleurisies leads to important prognostic conclusions.

4. The Treatment of Tetanus by Intraspinal Injections of Magnesium Sulphate for the Control of Convulsions.—Logan describes two cases of tetanus convulsions treated with magnesium sulphate injections. One showed a positive result in the control of the convulsions, while the other showed no change. This last failure the author attributes to the use of too small a quantity of the solution in proportion to the severity of the attack, but on account of the limited experience the author did not exceed the limits of dosage recommended by Meltzer. The author thinks the following points are worthy of further emphasis: The control of convulsions by the use of the magnesium sulphate solution, while the respiration will be interfered with, this being the only annoying feature of the treatment. Death of a patient seems to follow in a state of complete relaxation. It seems that the value of this or any other plan of treatment for tetanus which aims at a control of the muscular spasm is only palliative. Our efforts should rather be directed to the finding of some means of neutralizing the toxins.

5. Diagnostic Value of the Leucocyte Formula in Pertussis.—Churchill states that a general leucocytosis is present in almost all cases of whooping cough, while a lymphocytosis is found in about 85 per cent. of cases at some time during the course of the disease. The presence of a lymphocytosis in a child with a hard, persistent cough is a factor of great diagnostic value. It is also of prophylactic importance, inasmuch as it can be utilized to prevent the spread of the disease by leading to the prompt isolation of the patient. The child's age must be taken into account in estimating the importance of the lymphocyte presentings.

7. Transmission of Bubonic Plague by Ship Rats.—Strauch gives his experience on board a ship with bubonic plague, the disease being spread by rats. He therefore comes to the conclusion that for international trade international quarantine rules ought to be made, demanding as one of their principal points systematic extermination of the rats on board with sulphur dioxide, carbon dioxide, carbon monoxide, traps, poisons, or a sufficiently virulent culture of Danysz's bacillus, while the ship lies empty at its terminus. The same should also be attempted with dock and harbor rats.

8. The Treatment of Arthritis Deformans with the Roentgen Rays.—Anders, Daland, and Pfahler report two cases of arthritis deformans treated with Röntgen rays with good results. They believe that this method

of treatment is a valuable adjunct in the treatment of these chronic joint affections, but that it is advisable to use massage and passive motion in conjunction with the Röntgen rays. The rays will stimulate and increase the metabolism within the joint, and this should be taken advantage of, while the massage and passive motion will assist in the removal of the exudate.

11. Tropical Neurasthenia.—King uses the term tropical in the sense of locality more than to characterize any special type of neurasthenia. Few individuals entirely escape it if they live for any length of time in the tropics. While the climate is usually blamed for it, it should be remembered that man will have to change his habits and customs when he comes from a northern climate. Special attention should be given to diet, alcoholic excesses avoided. Moderate exercise is essential to health in the tropics and should be insisted upon. The symptoms may disappear gradually and the patient recover spontaneously, as he becomes more accustomed to his new life and environment. The time necessary may depend on the adaptability of the individual. Prominent symptoms may require special medication, but their use will too often prove disappointing.

13. Mercurial Nephritis with Uræmia.—Willson gives his opinion that: 1. The routine administration of mercurial laxatives and purges prior to the receipt of a careful uranalysis may occasionally result in fatality, even though the mildest mercurial salt may be employed. 2. An existing nephritis should contraindicate any but the most careful use of the drug, not excepting those cases in which it is possible to trace the renal disability to a syphilitic infection.

MEDICAL RECORD.

May 19, 1906.

1. The Russian Red Cross. By JOHN VAN R. HOFF.
2. Treatment of Chronic Diseases of the Heart by the Naheim Methods: Its Indications and Contraindications, By FRANCIS P. KINNICUTT.
3. The Treatment of Tabes Dorsalis, By F. VON RAITZ.
4. Sanitary Supervision of Pulmonary Tuberculosis and Other Communicable Diseases by the Department of Health of the City of New York,

By J. S. BILLINGS, JR.

5. A Case of Complete Inversion of the Uterus, By J. SEYMOUR EMANS.

1. The Russian Red Cross.—Hoff cites the conclusion of the report of the Russian Red Cross Society, which reads: "Not only has the Red Cross aided the military medical department by supplying necessary *matériel*, not furnished from the army medical magazines, and providing trained nurses, but even organized its own hospitals, flying detachments, dieted rest stations, hospital railroad trains, hospital boats, etc. Moreover, it has taken an active part in the transportation and distribution of the sick and wounded, and has as well looked after their wants both in the field, on the lines of communication and at home, supplying them generously with clothing and everything essential to their comfort. The successful accomplishment of the many and great tasks which have fallen upon us was only possible through the wonderful development of the organization during this war, a development far exceeding anything in its history, and due to the voluntary union of the whole people under the flag of the Red Cross to promote the activities of their national society."

3. The Treatment of Tabes Dorsalis.—Von Raitz writes that there are three groups of factors responsible for tabes, each of them furnishing its varieties. All, however, impair nutrition of nerve tissue. The treatment must therefore begin by preventing impairment of nutrition, and when this has actually set in, by restoring nutrition. The first step to increase nutrition of the whole body is taken by placing the patient under most favorable conditions. Pure air, sunshine,

congenial surroundings, plenty of sleep, and adequate occupation of mind and body, are most important. Salt-brine friction of the body, in a warm bath, at a temperature agreeable to the patient, twice a week, keeps the pores of the skin open and promotes the circulation. Clothing must aim to keep the body comfortably warm, but not heated. Diet is the next step. It matters not what the patient eats, but what agrees best. The digestive power is generally impaired; slow eating and thorough mastication are, therefore, most essential. Liquids, to wash down the morsels, must be omitted; all solid food must be chewed until sufficiently liquefied by the saliva to allow deglutition. Concentrated food must be avoided, as it tends to overload the system with material which it cannot oxidize, and as it also tends to weaken the muscular power of the alimentary canal, and to cause constipation and indigestion. To satisfy the want of the body for water, liquids must be taken between meals. Alcoholic beverages must be avoided, except when the wisdom of the attending physician finds that a temporary stimulation is needed for immediate action. There is no drug in existence which has any influence beneficial to the tabetic lesions, but the different organs should receive special attention. The heart with digitalis, ergot, and strychnine; digestion with muriatic acid, rhubarb, gentian, tincture of nux vomica, laxatives, etc.; the liver with fluid extract of iris versicolor, calomel with sodium bicarbonate. Electricity may stimulate appetite and digestion, as well as increase the nutrition of muscular and peripheral nerves. When tabes disease is once well established all we can hope to accomplish then is to keep the patient comfortable and to prolong life. It is, therefore, of utmost importance to recognize tabes in its very incipency. Judicious treatment will then check the progress of the disease, and restore the involved structures to a normal, or to a practically normal condition.

5. A Case of Complete Inversion of the Uterus.—Emans reports a case of complete inversion of the uterus. This condition arises but once in about 200,000 cases of confinement. The patient had been attended by a physician during her confinement and in after treatment, but he did not replace the inverted uterus. The author finally succeeded by placing his right hand in the vagina, grasping the uterus and pressing up with the fingers along its side. The uterus then suddenly yielded and slid in place. Following it with his hand upward the author came to the fundus of the uterus, which was still projecting slightly into its cavity. Pushing this in place, he withdrew his hand, and gave a very hot bichloride douche, when the uterus contracted and remained in place. The replacing did not take more than ten minutes. An examination, half a year later, presented the uterus in its proper position; the patient stating that she had had no uterine troubles from the day it had been replaced.

BRITISH MEDICAL JOURNAL.

May 5, 1906.

1. Some Surgical Complications of Tabes Dorsalis,
By A. A. BOWLBY.
2. The Bacteriology of a "Common Cold,"
By C. H. BENHAM.
3. The Diffusion of Red Blood Corpuscles Through Solid
Nutrient Agar,
By H. C. ROSS and R. ROSS.
4. Personal Identification by Means of Finger Print Impressions,
By V. BATESON.
5. Serum Therapy by the Mouth,
By D. M. PATON.
6. Cervical Ribs and Their Effects Upon the Great Vessels of the Neck,
By W. BROADBENT.
7. A Case of One Cerebral Hemisphere Supplying Both
Sides of the Body,
By G. H. GRILLS.
8. What Influence Has the Use of X Rays Had Upon
Treatment of Fractures and Dislocations?
By J. L. THOMAS.

1. **Tabes Dorsalis.**—Bowlby reports a case of tabes

dorsalis, exhibiting certain surgical complications of the disease, Charcot's disease, and perforating ulcer of the foot. An interesting point was that the ulcers always reopened if alcohol in any form was taken. Spontaneous fracture of the long bones is another surgical complication of tabes, very closely allied to Charcot's disease, and probably due to the same sort of bone dystrophy. Gray atrophy of the optic disc on one side and great loss of sight also occurred in the case here reported. In general, not much can be done to alter the progress of tabes; the main thing is to improve the general nutrition of the patient. Antisyphilitic remedies are of no use. All the various complications should be treated surgically, and the patient encouraged to believe that most of the complications are transitory.

2. Bacteriology of "Colds."—Benham has investigated the bacteriology of mild cases of common cold, the usual symptoms being sore throat, sneezing, malaise, headache, and general muscular pains. Swabs were taken from the nose and throat, from which cultures were made on serum agar, and subcultures on nasagar. Diphtheroid organisms were found in twenty out of twenty-one cases; cocci negative to Gram's stain (*Micrococcus catarrhalis*), ten cases; Pfeiffer's bacillus (influenza), two cases. So that the main feature of the series is the almost constant occurrence of a diphtheroid bacillus. The author sums up his conclusions as follows: This diphtheroid organism conformed to the description of Cautley's bacillus, found by him in cases of common cold. It gave reactions in carbohydrate media which serve to differentiate it from diphtheria on the one hand and xerosis and Hofmann on the other. The question of the exact symptoms, if any, caused by the diphtheroid bacillus and the *Micrococcus catarrhalis*, respectively, cannot be said to be settled. The author suggests the name *Bacillus septus* for this diphtheroid bacillus.

3. Diffusion of Blood Through Agar.—Ross has noted that when blood is planted on the surface of solid nutrient agar and incubated at 42° C., after about twelve hours, a remarkable diffusion of the red corpuscles takes place. A red, thick, and opaque cloud extends downward into the surface of the medium, growing thinner as it extends. The phenomenon does not occur until the temperature reaches 35° C. It occurs rapidly at 60° C. It is not affected by gravity. Attempts to produce diffusion of the cells in blood serum and gelatin have failed.

5. Oral Serum Therapy.—Paton for some years has been giving serums, both normal and specific, by the mouth with remarkable results. Their action thus used is neither antitoxic nor antibacterial. Along with antitoxic and antibacterial resistance to infection, or alone when these other elements are absent, there is produced an increased resistance in the tissues to the pathogenic action upon them of the organisms present; this produces what may be called a sterile soil without harmfully affecting the organisms themselves. This is present in active immunity and can be transferred to the patient as passive immunity by the oral use of the serum in regular doses. This tissue tone constitutes initial resistance to infection, and may be defined as the capacity of the tissues to carry on their functions unimpaired in the presence of infection. In diphtheria the concurrent use of the serum by mouth in doses of one drachm with the hypodermic injection materially assists the recuperative powers of the patient and leads to a rapid and complete recovery when given in time.

8. X Rays in Fractures and Dislocations.—Thomas reaches the following conclusions as to the influence which x rays have exercised upon treatment of fractures and dislocations: 1. No new methods of treatment have been introduced since or due to the discov-

ery of x rays. 2. The ordinary symptoms of fractures and dislocations are sufficient to form a correct diagnosis in the vast majority of cases, and x rays are unnecessary. 3. In injuries to bones or joints which are obscure from any cause the aid of x rays should always if possible be obtained. 4. The value of x rays alone in forming an opinion with regard to treatment is nil. 5. X rays are of no value in forming opinion as to the progress of the process of repair in recent fractures, and they are also useless in forming opinion as to the usefulness of a limb; their value is limited to the determination of the mechanicopathological conditions of the fragments. 6. The evidence afforded by x rays is deceptive, misleading, and should only be submitted to and acted upon by those who understand their value.

LANCET.

May 5, 1906.

1. The Bearing of Metabolism Experiments Upon the Treatment of Some Diseases (*Oliver-Sharpey Lectures*, II),
By E. I. SPRIGGS.
2. A Paper on the Pathogeny of Diabetes,
By F. W. PAVY.
3. On the Action of Venoms of Different Species of Poisonous Snakes on the Nervous System. V. Venom of Common Krait (*Bungarus Cœrulens*),
By G. LAMB and W. K. HUNTER.
4. Twenty-two Fatalities Which Have Occurred Under Ethyl Chloride,
By T. D. LUKE.
5. On the Primary Caries of the Mastoid Process as a Cause of Mastoid Abscesses in Young Children.
By L. P. GAMGEE.
6. Obscure Cerebral Manifestations of Tuberculosis. Notes on Three Cases,
By J. FORTUNE.
7. A Successful Case of Epilepsy for Cirrhosis of the Liver, with Ascites,
By T. K. MOURO and A. N. MCGREGOR.

1. **Metabolism and Treatment of Disease.**—Spriggs, in the second Oliver-Sharpey lecture, takes up the question of fever. The products of bacterial infection cause: (1) A disturbance of the heat regulatory mechanism, resulting in instability of regulation; a febrile temperature is more easily altered by hot or cold baths than the normal; (2) a disintegration of the nitrogenous tissues, especially the muscles; and (3) the pyrexial condition is usually accompanied by increased oxidation. Tepid or cold baths lessen the proteid breakdown. If food be introduced into the alimentary canal it is made use of, but appetite is usually wanting, the gastric functions being depressed. Pepsin is present, but the hydrochloric acid is diminished. A rich diet of proteid with little other foodstuffs undergoes more putrefaction than when abundance of carbohydrate is present. Although the condition of inanition is far worse sustained with pyrexia, yet the body weight can be kept from falling if sufficient food be given to supply at least twenty-five calories per kilogramme of body weight. Fluid food satisfies thirst, but its energy value is correspondingly low. Milk calls forth less gastric juice than other proteid foods, but if it curds it must be diluted, peptonized, or decalcified. To provide nourishment of sufficient caloric value, as much fat should be given as can be taken without exciting distaste. Cream and butter are of great value in fever. Carbohydrate should never be omitted from the diet unless, as in severe cases of diabetes, this may be necessary for a time. Starch is the best form; failure of amylolysis in the intestine must be of very rare occurrence. Neither carbohydrate nor fat makes demands upon the digestive activity of the stomach. No bulky foods should be used, or the patient will take an insufficient quantity. Water must be abundantly supplied in all cases of fever. In pulmonary tuberculosis suitable material must be furnished to the cells of the body (1) to enable them to provide energy for their usual needs; (2) to provide any extra energy they may require in opposing the bacillary growth and with-

standing toxins; and (3) to replace any tissue which may be broken down by toxic action.

2. **Pathogeny of Diabetes.**—Pavy states that ordinarily in human diabetes the sugar is conveyed to the kidney in the blood and simply eliminated by that organ—i. e., hyperglycæmia is antecedent to the glycosuria. In one class of cases the eliminated sugar is directly traceable to carbohydrate in the food ingested. Another source of sugar in diabetes is the breaking down of complex molecules into which the sugar molecule has previously entered. This occurs in advanced cases of diabetes where the power no longer exists of preventing the elimination of sugar by restriction from carbohydrate food. In these cases there is active wasting, and it may be assumed that through an abnormal enzymic agency there is a wrong katabolism proceeding which is attended with the liberation of sugar. No doubt can be entertained that the nervous system plays an important part in the pathogeny of diabetes. Vasomotor paralysis implicating the chylipoietic viscera constitutes one source, if not the main source, of diabetes. Hyperoxygenation of the blood may derange metabolism and induce glycosuria. Diabetes most frequently exists in connection with the neuropathic disposition; the more sensitive and highly strung the nerve organization the more intense the form of the disease. A cerebral influence over the vasomotor state is suggested as constituting the link between brain and diabetes. Neurotic polyuria is of common occurrence in association with different cerebral conditions. Diabetes insipidus may be regarded as the result of a persistent vasodilatation, implicating specially the renal vascular area. Exophthalmic goitre is another example of a disease connected with a local vasodilatation.

4. **Ethyl Chloride.**—Luke has collected from the literature twenty-two cases of death under anæsthetization with ethyl chloride. He is struck by the fact that some of the cases were very bad subjects for any anæsthetic. Of the twenty-two fatal cases, no less than eight occurred during dental operations. Ethyl chloride is not a drug to be recommended off hand, but requires for its safe administration discrimination, caution, and skill. The author figures out a death rate of one in eight thousand, and therefore holds that ethyl chloride is a comparatively safe anæsthetic agent, certainly much safer than chloroform for short operations. In dental work it should not be given alone, but either in mixture with nitrous oxide in small doses for short cases, or in sequence with ether for longer cases.

5. **Mastoid Caries.**—Gamgee, from a study of sixty-one cases of mastoid abscess in young children, draws the following conclusions: 1. That in young children a form of mastoid abscess not uncommonly occurs (in ten out of sixty-one cases) in which there is no history of otorrhœa and in which the membrana tympani seems to be normal. In these cases the abscess is due to primary caries of the mastoid. 2. That in these cases the abscess is of low and painless formation, the patient's temperature not being raised and the ear not being displaced.

LYON MEDICAL.

April 30, 1906.

Constipation in Chronic Peritoneal Inflammations.

By EUGENE VILLARD.

Constipation in Chronic Peritoneal Inflammations.—Villard advances the statement that in a great many cases the constipation is caused by the presence of a chronic, more or less latent, inflammation of the peritonæum, and deals with the relation between it and appendicitis, salpingitis, and cholecystitis. In all these diseases he believes constipation to be a result rather than a cause, that which precedes an attack indicating

a latent, preliminary inflammation in or about the organ involved, and that which follows dependent on the lesions which persist. He quotes a number of cases and finally comes to these conclusions: 1. In a great many cases constipation is dependent on a chronic localized inflammation of the peritonæum, of appendicular, salpingoovarian, biliary, or other origin. 2. According to Stokes's law the constipation is due to paresis of the intestinal musculature. Surgical intervention demonstrates the correctness of this pathogeny and causes the constipation to disappear after the ablation of the focus of infection. 3. When surgical intervention is not indicated by the presence of a primary inflammatory lesion medical treatment addressed to the promotion of the intestinal contractility should be instituted.

BERLINER KLINISCHE WOCHENSCHRIFT.

April 23, 1906.

1. Scurvy, By Professor H. SENATOR.
2. Case of Cardiac Neurosis and Arteriosclerosis After Traumatism, By Professor GOLDZIEHER.
3. The Signification of Fresh Blood Preparations to the General Practitioner, By G. KROENIG.
4. The Influence of Creosote and Formaldehyde Combined on Metabolism, By A. BICKEL and L. PINCUSOHN.
5. Lysol Poisoning, By J. WOHLGEMUTH.
6. Ochronosis, By L. PICK.
7. Recent Experiences and Views with Regard to the Syphilitic Diseases of the Circulatory Organs in Acquired Syphilis, By C. BRUHNS.
8. The Education of a Physician, By Professor KOENIG.

1. **Scurvy.**—Senator reports in detail a case of scurvy in a girl, fifteen years old, in which the diagnosis was based on an acquired hæmorrhagic diathesis with inflammatory hæmorrhagic disease of the gums. Sections of the spleen and of the lymphatic glands showed that those organs were of normal formation with no changes in their cellular constituents. The medulla of the dorsal vertebra and of the epiphysis of the thigh was red, that of the diaphysis of the latter yellow. The erythrocytes were much reduced in number, so that the white blood cells preponderated without exhibiting an abnormal proportion of the different forms. Giant cells were numerous.

2. **Cardiac Neurosis and Arteriosclerosis After Traumatism.**—Goldzieher reports the case of a man, twenty-six years old, who was struck on the head with a brick and rendered unconscious for a time. The severe occipital headache from which he thereafter suffered brought him under observation three weeks later, and after that he was repeatedly examined until the date of the last observation, March 29, 1906. When first seen his pulse was 120, arteries soft, rather tense, heart sounds clear, and not particularly accentuated. When last examined his pulse was from 136 to 144, the radial, brachial, and temporal arteries were tortuous, thickened, and hard, and there was a sharp systolic aortic murmur. There was no history of syphilis or other disease to account for the development of the arteriosclerosis.

3. **The Signification of Fresh Blood Preparations.**—Kroenig urges that for practical diagnostic purposes an examination of fresh blood is of much greater service to the physician than is one of a stained dry preparation.

4. **Influence of Creosote and Formaldehyde Combined on Metabolism.**—Bickel and Pincussohn describe the results of an experiment on a dog. The changes in weight, urine, etc., are tabulated, and go to show that metabolism is interfered with by this combination.

5. **Lysol Poisoning.**—Wohlgemuth reports a case of this nature which he met with in a man, fifty years of age.

7. **Syphilitic Diseases of the Circulatory Organs in Acquired Syphilis.**—Bruhns reviews the modern opin-

ions in regard to circumscribed and diffuse infiltration of the walls of the heart and of the arteries which result from acquired syphilis, together with an account of the clinical symptoms. The most noteworthy point about syphilitic arteritis is that it appears in patients of a younger age than that in which arteriosclerosis is usually present. Many authors believe that syphilitic aortic disease presents a characteristic form which can be distinguished from arteriosclerosis by the changes in the adventitia and media. The prognosis is generally favorable under treatment with mercury and iodide.

MUENCHENER MEDIZINISCHE WOCHENSCHRIFT.

April 24, 1906.

1. Galloping Rhythm of the Heart, By FRIEDRICH MÜLLER.
2. Action of Alcohol on the Excretion of Azeton Bodies, By OTTO NEUBAUER.
3. The Color Index of the Red Blood Corpuscles, By ERICH MEYER and ALBERT HEINECKE.
4. Punctate Erythrocytes, By ERICH MEYER and DAVID SPERONI.
5. The Behavior of the White Blood Cells During an Attack of Asthma, By A. HEINECKE and F. DEUTSCHMANN.
6. The Behavior of Typhus Agglutinine in the Maternal and Fetal Organisms, By CARL STAEUBLI.
7. Pseudobulbar Paralysis, By HEINRICH VON HÖSSLIN and T. SELLING.
8. "Main de Predicateur" in Multiple Sclerosis, By THEOBALD SELLING.
9. Optic Neuromyelitis, By KERSCHENSTEINER.
10. The Influence of the Temperature on the Excretion of Sugar, By W. BRASCH.
11. Contribution to the Clinical Diagnosis of Abscess of the Lung, By Professor H. RIEDER.
12. Graphic Record of the Percussion Note, By Professor RICHARD MAY and LUDWIG LINDEMANN.
13. The Direct Revulsion of the Action Current of the Human Heart from the Oesophagus and the Electrocardiogram of the Fœtus, By MAX CREMER.
14. The Treatment of Tuberculosis in Sanatoria (Volksheilstätten), By Professor PENZOLDT.
15. The First Cardiac Sound, By Professor RICHARD GEIGEL.
16. Pectoral Fremitus in Croupous Pneumonia, By J. ARNETH.
17. Bacteriology of the Blood in Typhus and Paratyphus, By KAYSER.
18. Orthodiagraphy, By FRANZ M. GÖBEL.

1. **Galloping Rhythm of the Heart.**—Müller presents cardiograms which illustrate the action of a heart subject to reduplication of its first sound, the "bruit de galop" of French writers, and compares them with the curves obtained from the jugular and carotid in both the presystolic and the protodiastolic type. He thinks the prognostic importance of the galloping rhythm of the heart to be not so bad as it is frequently considered. In neuroses of the heart and in typhus it is not an indication of danger. Patients with chronic kidney disease and with various forms of cardiac trouble may live for many years after its appearance. But it always serves to attract the attention of the physician and frequently leads to the adoption of an energetic therapy, particularly to the use of digitalis.

2. **Action of Alcohol on the Excretion of Azeton Bodies.**—Neubauer has obtained much greater improvement in cases of diabetes by the addition of a certain amount of wine or alcohol to the noncarbohydrate diet of his patients.

3. **The Color Index of the Red Blood Corpuscles.**—Meyer and Heinecke believe that the behavior of the color index furnishes a new and very useful aid in the determination whether an anæmia is due to a retrogression of the formation of the blood to the embryonal type or not.

4. **Punctate Erythrocytes.**—Meyer and Speroni state that in various anæmic conditions, particularly those

caused by poisons, there are to be found punctate forms in the red blood corpuscles which are stained with methyl blue. The presence of these has been explained in two ways, as a form of degeneration of the protoplasm and as offshoots of the nuclei, but these authors believe that they should be regarded as signs of regeneration rather than of degeneration.

7. **Pseudobulbar Paralysis.**—Von Hösslin and Selling report an unusual case of this nature, together with the result of the autopsy. The pathological conditions found in the brain are described minutely and are of much interest, showing three foci of disease, but the description cannot be satisfactorily abridged into a short space.

8. **Multiple Sclerosis.**—Selling reports a case of multiple sclerosis which exhibited to a marked degree the position of the hands denominated by Charcot and Joffroy "main de predicateur."

9. **Optic Neuromyelitis.**—Kerschensteiner describes the clinical course and the pathological conditions found in a case in which optic neuritis appeared either simultaneously with or immediately after the onset of an acute myelitis.

12. **Graphic Record of the Percussion Note.**—May and Lindemann publish an ingenious method of recording the sounds obtained by percussion. A membrane is so placed that it will be put into vibration by the notes obtained on percussion of the chest while rays of light are focussed upon it, and then reflected into a photographic apparatus. When the membrane is put into vibration a wavy line of light is formed, the waves varying in height in accordance with the note, and thus the resonance is recorded.

14. **Treatment of Tuberculosis.**—Penzoldt makes a strong plea in favor of sanatorium or hospital observation and treatment of tuberculosis.

15. **The First Cardiac Sound.**—Geigel claims that by careful auscultation a place in the region of the heart can always be found where the first sound is followed by a vascular murmur which resembles a reduplication of the first sound.

16. **Pectoral Fremitus in Croupous Pneumonia.**—Arneth discusses very extensively the increase of pectoral fremitus in pneumonia, together with the method of its production, and states among other things that, according to his observation, there is no increase of the fremitus during the second stage of the disease, but that it is most marked during the first and third stages.

ZENTRALBLATT FUER GYNAEKOLOGIE.

April 21, 1906.

1. The Magnet as a Diagnostic Aid in Gynecology, By H. W. FREUND.
2. Ventrofixation of the Uterus, By H. SUTTER.
3. Ætiology and Treatment of the Vomiting of Pregnancy, By A. MUELLER.
4. The Time of First Menstruation in Sweden, By E. ESSEN-MOELLER.
5. Acute Suppurative Mastitis Treated by Bier's Method, By B. ENGLAENDER.

1. **The Magnet in Gynecology.**—Freund condemns Sellheim's suggestion of using a powerful magnet which acts upon a suitable soft iron bar placed in the uterus as a diagnostic and therapeutical aid. He points out the errors upon which the latter author has acted, and says that, at best, it may have some suggestive value. As an aid in teaching bimanual palpation, he regards it as worthless.

3. **Vomiting of Pregnancy.**—Müller regards many cases of hyperemesis as a reflex neurosis of the sympathetic which is evoked by a tension of the fibres of this set of nerves prevented from stretching by inflammatory processes or by the succulence of the tissues. He has often found light adhesions between the left posterior wall of the uterus and the promontory of the sacrum in the neighborhood of the solar ganglion. As

soon as these adhesions were broken up, vomiting ceased. The author speaks of other inflammatory conditions which seem to cause vomiting during pregnancy, and dwells upon the internal os, especially in cases of rigid cervix, as causing the condition. Intestinal intoxication, hysteria, and neurasthenia, are further causes of hyperemesis which lend themselves to suitable treatment.

4. **First Menstruation in Sweden.**—Essen-Möller finds out of 5,000 women, that the first menses appeared in greatest number at fifteen, fourteen, and sixteen years, respectively. Four patients began at ten years of age and three at twenty-three.

5. **Acute Suppurative Mastitis.**—Engländer reports a case of acute suppurative mastitis which was cured by Bier's method of inducing hyperæmia. After the first treatment, a bluish color developed over the fluctuating area which gradually increased after each treatment. There was no pain, and after the fifth treatment the abscess ruptured spontaneously. There was no interruption of the milk secretion during the treatment, and the milk was drawn off without causing the patient any pain.

ZENTRALBLATT FUER INNERE MEDIZIN.

April 21, 1906.

1. The Relation Between the Blood Findings and the Degree of Acidity of the Gastric Juice.

By A. R. VON KOBACZKOWSKI.

1. **Blood and Gastric Juice.**—Von Kobaczkowski finds that in all cases of primary hyperacidity as well as in cases evoked by the presence of a growth, the hæmoglobin contents of the blood is high, showing an average in twenty-nine cases of seventy-three per cent. The same findings were obtained in cases of secretory gastric insufficiency whether this was spontaneous or secondary, as it is found in cases of gallstones, cirrhosis of the liver, neoplasms of the gallbladder, and malarial swelling of the liver and spleen. In this group the hæmoglobin averaged sixty-one per cent. He concludes that when no severe hæmorrhages have taken place, the blood findings are very near the normal in cases of hyperacidity from any cause.

RIFORMA MEDICA.

April 7, 1906.

1. The Genesis of the Rice Bodies in Chronic Tuberculous Tenosynovitis, By ORESTE CIGNOZZI.
2. Contribution to the Study of Preperitoneal Echinococcus Cysts, By FEDERICO DELAINI.
3. Five Cases of Anal Fissures Post Partum, By FRANCESCO PELLIZZARI.

1. **Origin of the Rice Bodies in Tenosynovitis.**—Cignozzi says that the rice bodies which are seen in chronic tuberculous tenosynovitis are formed in virtue of a twofold mechanism. They are the products of pedunculated growths on the inner wall of the sheath which become detached. The detached granulating or fungous tissue is loosened as the result of the action of the tendons, and forms the nuclei of the rice bodies. Secondly, these bodies are formed as the result of coagulation of fibrin in the sheath fluid.

3. **Fissures of the Anus After Childbirth.**—Pellizzari found five cases of anal fissures after childbirth in a service of twenty-four months' duration, and calls attention to the fact that this complication of labor is not spoken of in the textbooks. He found only a reference in Albert's book, where the affection is not regarded as a frequent one. The number of cases which he observed led him to study the subject more in detail. In the five cases which he now reports the rhagades were undoubtedly due to the act of parturition. Patients, indeed, had complained that during the labor they had felt pain in the anus which was stronger than the uterine pain at the time. The rhagades were in nearly all cases found over the coccygeal segment of the anus, and their mechanism was easily understood

when we remember that during childbirth the forehead of the fœtus presses directly upon the coccyx, grinding the anal edge upon the tip of that bone. An interesting fact was that in none of the cases reported had there been a perineal laceration.

ROUSSKY VRATCH.

April 1, 1906

1. The Significance of Blastomycetes in the Origin of Malignant Tumors, By A. P. BRAUNSTEIN.
2. Alcoholism and Heredity, By TH. E. RYBAKOFF.
3. Primary Tuberculosis of the Uterus, By D. D. POPOFF.
4. Properties and Chemical Relations of Lecithin, Phytin, and Their Nucleic Acids, By M. D. ILIYNE.
5. New Growths and Cysts of the Pancreas, with a Description of Two Cases (Concluded), By G. A. LIUBENETSKI and L. L. FOFANOFF.

1. **Blastomycetes in Origin of Tumors.**—Braunstein found that the injection of cultures of blastomycetes into tissues a granulation was produced which took the form of a granuloma. This growth either disintegrated, or became cicatrized. None of the blastomycetes thus far described produced a growth which histologically resembled either carcinoma or sarcoma. The histological structure of the growths produced by the injection of blastomycetes, the character of the metastases, the absence of cancerous cachexia, the presence of blastomycetes in the organs of healthy persons, all these speak against the probability that the blastomycetes are causes of malignant growths. Vlayeff's serum cannot, therefore, be regarded as specific, and this conclusion is practically supported by the negative results obtained with this serum in patients with cancer.

2. **Alcoholism and Heredity.**—Rybakoff concludes as follows from a study of alcoholism as related to heredity: In ninety-four per cent. of all alcoholics one finds hereditary predisposition to drink or a hereditary inclination to nervous or mental disease. Over ninety-two per cent. of all drunkards have relatives in their immediate families who are given to drink. The neuropsychical predisposition is met with in drunkards much less than the alcoholic heredity. Alcoholism tends to be transmitted in a direct line, usually from the parents. Of the drunkards examined by the author, sixty-six per cent. had alcoholics among their parents, thirty-six per cent. among their grandparents, and forty-six per cent. among uncles and aunts. Women more frequently than men become alcoholics without any hereditary predisposition. Alcoholic heredity is more readily transmitted from the father's line than from the mother's. The reverse holds good as regards neuropsychical heredity. The heredity factor is strongest in periodical drunkards, next in habitual drunkards, and least in occasional drunkards. Periodical drunkenness is transmitted as a rule as such to posterity. Drunkenness in one parent usually leads to mild forms of drunkenness in the children, while drunkenness in both parents as a rule descends in severe form upon the next generation. The author concludes that medicines containing alcohol should not be prescribed oftener than is absolutely needful, and that in patients with a hereditary predisposition such medicines should be entirely avoided.

3. **Primary Tuberculosis of the Uterus.**—D. D. Popoff says that the female generative organs are the seat of tuberculosis much more frequently than has been hitherto supposed. Primary affections of the female generative organs are less frequent than secondary. Chronic inflammations predispose the organs to tuberculous infection. The diagnosis is made, not only from the presence of tubercle bacilli when these can be found, but also from the existence of tubercles in the diseased tissue. Operative treatment gives the best results in primary cases, especially in young women, and in cases in which the ovaries can be spared.

ARCHIVES OF THE ROENTGEN RAY

May, 1906.

1. A Case of Neuralgia of the Trigeminal Nerve Successfully Treated by Radiotherapy, By G. HARET.
2. The Mechanism of the Closure of the Bladder, as Shown by Radiography, By CHARLES LEEDHAM-GREEN and JOHN HALL-EDWARDS.
3. Chronic Congestion Treated by Electricity, By FLORENCE A. STONEY.
4. Röntgen Treatment and Röntgen Dermatitis (Concluded), By LEOPOLD FREUND.
5. A Case of Mycosis Fungoides Treated Successfully by the X Rays, By G. STOPFORD TAYLOR.
6. Forward Dislocation of the Head of the Radius, By H. EVELYN CROOK.

1. **A Case of Neuralgia of the Trigeminal Nerve Successfully Treated by Radiotherapy.**—Haret gives the history of an obstinate case of trigeminal neuralgia which he treated successfully with x rays after all other methods had proved unavailing. The painful region was irradiated through the mouth, the neighboring parts being protected by a tube of lead glass. The x rays were directed on the alveolar border in the region of the first and second molar teeth. A dose of four Holzkecht units was given daily, using rays corresponding to numbers seven or eight on Benoist's scale. After the first and second séances there was no noticeable change. After the third irradiation the patient asserted that there was some diminution of the pain. There was slight reaction of the skin on the border of the upper lip, which had been imperfectly shielded from the rays. After the fourth séance there was a complete cessation of all pain. Since then the patient has remained free from any recurrence of pain.

2. **The Mechanism of the Closure of the Bladder as Shown by Radiography.**—Leedham-Green found by radiography that, whether the bladder was fully distended or not, the outline of the organ was oval, not pear shaped, and the urethra was sharply cut off from the bladder without a suggestion of a bladder neck. There are reasons, therefore, for believing that the sphincter of the bladder plays a more important part than Finger and Guyon credit it with, and that under ordinary circumstances it is by this muscle that the bladder is closed, whether it be distended or not.

3. **Chronic Congestion Treated by Electricity.**—Stoney reports nine cases of chronic congestion which were treated by electricity. The author's idea is that the electricity, whether the constant current, the interrupted current, or high frequency, causes the muscular wall of the vein to contract, and thereby helps not only to empty it of blood, but also to tone up the weakened wall, partly by stopping the overdistention, and partly by actual contraction of the muscle itself, making it stronger and more willing to work again. The ozone from the high frequency brush also stimulates the ulcerated surface. She always uses high frequency, as its action is much stronger on the veins, while at the same time it is not unpleasant to the patient, as are the other forms of electricity. Three of the cases were of simple varicose veins, of these two patients had no recurrence, while one gave up treatment. Six other cases had simple varicose ulcers, of these patients four were healed, while two are still under treatment.

4. **Roentgen Treatment and Roentgen Dermatitis** (April and May Issue).—Freund asks two questions: Are the dangers of radiotherapy really so great that the resulting evils more than compensate for the advantages of treatment? and What permanent results are we justified in expecting from radiotherapeutical treatment? He answers them by saying: 1. Apart from very few exceptional cases, we are now in a position to avoid with certainty any chance of overexposure in the case of normal persons. X rays behave like

other physical agents. We know that patients react differently to mechanical applications, douches, baths, and electrical current. Why should the Röntgen rays prove an exception. In the practice of Röntgen therapy we must be content with a knowledge of the average dose required to produce a given reaction. Severe cases of ulceration due to the Röntgen rays are now hardly ever seen. If the practitioner takes the proper precaution the danger is now practically nil. 2. The author states that a vast number of severe maladies react readily to Röntgen treatment, and he mentions especially: Psoriasis, lichen ruber planus, sarcoma cutis idiopathicum, mycosis fungoides, rodent ulcer, Paget's disease, epithelioma, tinea, sycosis, hypertrichosis. He includes in this list also lupus vulgaris, he having treated sixty-seven cases, thirty-one of which have been kept under observation, sixteen remained absolutely well. Furthermore, in leucæmia, in mitral insufficiency and stenosis, in struma, and in hypertrophy of the prostate, in laryngeal complications, in rhinoscleroma, it has proved itself an efficient agent.

EDINBURGH MEDICAL JOURNAL.

April, 1906.

1. Observations on the Circumscribed Abscess of Bone (Brodie's Abscess), By A. THOMSON.
2. Chronic Bronchitis and Adiposity, By G. A. SUTHERLAND.
3. Abdominal Hysterectomy for Acute Puerperal Metritis and Acute Salpingitis, with Record of a Successful Case, By J. H. FERGUSON.
4. Uric Acid as the Cause of Gout and Gouty Circulation, By A. HAIG.
5. On Epigastric Hernia, By A. MILES.
6. Heredity and Affiliation, By S. B. ATKINSON.
7. Leucæmia, By F. G. BUSHNELL and D. G. HALL.
8. A Case of Keratosis of the Larynx, By A. L. TURNER.
9. A Case of Pudendal Hernia Following Confinement, By W. A. DICKSON.

1. **Circumscribed Abscess of Bone.**—Thomson considers the anatomy of this subject in three stages: (1) The quiescent focus. (2) The ripe abscess. (3) The abscess after it has ruptured and discharged externally. In the first stage there are no symptoms, it may be prolonged indefinitely and may never give trouble. In the second stage the bone beyond the abscess is usually sclerosed, and offers great resistance to the extension of the abscess cavity. In the third stage the abscess has perforated the shell of the bone, and the pus has discharged externally. The size of the cavity may remain stationary, neither increasing nor becoming filled with new bone. The transition from the latent to the active state is due to the infective elements which cause reversion of the encapsulating membrane into granulation tissue. The typical seat of the abscess is near the central axis of the bone, in the region of the ossifying junction, where the marrow of the spongy bone encapsulates the infective agents. Pain is the dominant symptom, but there may be local tenderness and interference with function. If an abscess is suspected the interior of the bone must be explored, by incision, reflection of the periosteum, and opening of the bone with gouge or trephine. Pus and dead bone must be thoroughly removed and the cavity packed, the packing being frequently renewed. An ankylosed joint may be corrected when the abscess is opened.

2. **Chronic Bronchitis and Adiposity.**—Sutherland sums up the changes in fat people with whom bronchitis develops, as follows: 1. Vascular obstruction from increased peripheral resistance in fatty tissues. 2. Cardiac weakness from deposit of fat about the heart. 3. Pulmonary obstruction from excess of carbonic acid in the blood. To produce a cure the first and most essential procedure is to remove the excess of adipose tissue. In a short time the chronic wheeze will disappear, also the shortness of breath and the ability to walk up hill comfortably will be increased. For the

remainder of the patient's life his meals must be moderate in amount, the carbohydrate element being notably small.

3. **Abdominal Hysterectomy for Acute Puerperal Metritis.**—Ferguson quotes Schultze's indications for hysterectomy for puerperal fever: 1. An active source of infection in the uterus which cannot be successfully dealt with through the genital canal. 2. No imminent source of infection except in the uterus. 3. Foci of septic infection beyond the uterus must be improbable. The indications for hysterectomy are clear with sloughing and suppurating fibromata, uterine abscess in cases in which decomposing placental tissue cannot be removed per vaginam, in those in which a septic uterus has been perforated by a curette, and in criminal abortion. Mortality as well as morbidity in this disease would probably be diminished by timely surgical intervention in suitable cases. Treatment by hysterectomy is exceptional for puerperal cases, but it has a distinct, if limited field.

5. **Epigastric Hernia.**—Miles finds that trusses and belts seldom control this form of hernia effectively, and hence operative treatment is recommended. If the operation is done at an early stage when the only external evidence of the hernia is a subperitoneal lipoma, the operation is usually simple and satisfactory. Should strangulation occur it is usually rapid in its progress and quickly endangers life.

6. **Heredity and Affiliation.**—Atkinson asks the value of a physical or mental likeness in deciding cases of affiliation. The absence of such characters is not significant, and if the alleged resemblances are slight they may be merely fanciful or coincidental. If a positive presence of similarities is marked it may be regarded as a probable, practical, and prima facie test of paternity, especially if they are accentuated as life expands. Lawful children are occasionally born bearing striking similarity to one who is not the husband of the mother. This, in most cases, is merely a coincidence. There are biological and misprudent objections to the admission of arguments based upon signs in the child's body which are the alleged consequence of maternal impressions. Biologically the vital play of the complex ancestral forces of heredity is fixed at the time of conception. Congenital characteristics may be acquired by the foetus in utero by environmental forces. All congenital appearances are not the result of heredity, but an abnormal effect upon the foetus alleged by the mother to be due to an external accident or an internal yearning must be examined critically.

GLASGOW MEDICAL JOURNAL.

April, 1906.

1. Progress in Otology, By I. K. LOVE.
2. Remarks on Syphilis of the Respiratory Passages, By FULLERTON.
3. Several Patients from a Further Series of Cases of Congenital Obstruction of the Pylorus Treated by Operation, By J. H. NICOLL.
4. Bronchopneumonia and Abscess of the Lung, By I. MCKENZIE.
5. Address to the Southern Medical Society, By W. TAYLOR.

1. **Progress in Otology.**—Love enunciates the following propositions concerning the treatment of diseases of the ear: 1. In all diseases of the middle ear in children, whether suppurative or nonsuppurative, the nasopharynx and the nose have a paramount claim on the physician's attention. In adults the nasopharynx is not so often at fault as in children, but disease in the nose is most commonly the cause of ear trouble. 2. In acute inflammations of the middle ear, early paracentesis of the tympanic membrane is the prime indication, and after waiting a reasonable time the mastoid process should be opened unless the symptoms subside. 3. In chronic middle ear suppuration, if the discharge continues, the radical mastoid operation should usually be

performed. Removal of the ossicles may cure some cases, but its results are uncertain, and recovery is more apt to be permanent after the radical operation.

2. **Syphilis of the Respiratory Passages.**—Fullerton states that there is probably no disease which gives rise to so much misery and unhappiness as syphilis. The upper respiratory tract is a favorite location for the disease in all its stages, and it often remains unrecognized. In the nose it is usually of the tertiary type or the congenital type, which takes the tertiary form. Secondary affections of the nose are seldom observed. The bony septum and ethmoidal region are often attacked, and must be treated energetically to avoid necrosis of bone and disfigurement. In the pharynx the disease is more often observed than in any part of the body. The mucous patch is the typical form. Progress in this location is rapid and it spreads toward the opening of the œsophagus. Syphilis of the larynx is infrequent, and grave cases are seldom met with. Mercury is the only drug that can be relied upon for treatment. The patient should be charged with the drug as rapidly as possible, the quantity to be used varying with the individual. The author never uses potassium iodide alone for syphilis, but combines it with the mercury when the secondary symptoms appear. The treatment should continue eighteen months, or two years, and after an interval of six months, it should be renewed for another period of six months.

4. **Bronchopneumonia and Abscess of the Lung.**—McKenzie states that the interest in his cases centres about the diagnosis and the ætiology. The possibilities from which the diagnosis required differentiation were empyema, pulmonary tuberculosis, relapse of bronchopneumonia, tuberculous bronchial glands, and malignant endocarditis. As to ætiology mechanical influences are important, and may be traced in the development of the disease, in its complications, and in the process of its resolution. The first lobules to become atelectatic and inflamed are (1) at the posterior borders of the lower and upper lobes, (2) in the wedge shaped extremities between the dome of the diaphragm and the chest wall, and (3) in the lingula of the left lung. As to the complications atelectasis predisposes to acute emphysema, and possible lung rupture in young children. The increased negative pressure causes divergence of the blood to airless portions of lung thus favoring carbon dioxide poisoning. As to the mechanical factors in recovery those which determine the localization of the lobular changes also affect resolution when recovery has commenced. These areas are at mechanical disadvantage, because (1) the bronchi and bronchioles are filled with inspissated pus, (2) the elastic tissue is not sufficiently exercised, (3) the lymphatics are filled with leucocytes and epithelium, the lymph channels are blocked, and the nonexpansile condition of the lung impairs the valvular action of the lymph channels.

REVUE DE CHIRURGIE.

April, 1906.

1. Hernia and the Accidents Connected with Toil. Considerations as to the Cause and Origin of Hernia, By P. BERGER.
2. Intestinal Occlusion Associated with the Foramen of Winslow. Internal Hernia Across the Foramen of Winslow, By E. JEANBRAU and V. RICHE.
3. Fibrocystic Tumors of the Uterus, By G. PIQUAND.

1. **Hernia and the Accidents Connected with Toil.**—Berger concludes that hernia from accident, from traumatism, from sudden effort in an individual who is normally constructed is a very rare exception. The great majority of herniæ which are attributable to accidents are due to a predisposition which depends upon a weakness of the abdominal wall or upon a congenital fault. The accident has merely caused the manifest appearance of the hernia which was previously unrecognized.

We may therefore regard most of the hernias to be due to weakness of the abdominal wall or to be of congenital origin.

2. **Intestinal Occlusion as Related to the Foramen of Winslow.**—Jeanbrau and Riche conclude that under the influence of a violent effort or a series of efforts the large intestine is pushed toward the foramen of Winslow, that it may penetrate this opening and quickly undergo strangulation. Occlusion affecting the transverse colon is easily explained by the great mobility of this tube in its left segment, by the great length of its mesocolon and by the relative frequency of its permanent dislocations in its subhepatic position. In the rare cases in which the cæcum or the ascending colon is found in the posterior abdominal cavity there has usually been an arrest of development of the colonic peritonæum resulting in a long mesocolon with consequent exaggeration of mobility of the colon. The penetration of the intestine into the posterior peritoneal cavity is facilitated by the great area of the foramen of Winslow. In all such cases the part which is played by the abdominal wall is very important. If that wall is weak any unusual pressure is apt to force the intestine to the natural pelvic openings.

3. **Fibrocystic Tumors of the Uterus.**—Piquand states that the prognosis of such tumors is always grave. The patient is constantly threatened with hæmorrhage, or severe pain. Their volume, their rapid development, the compression which they cause result in functional troubles of varying character, and in anatomical lesions in different viscera. A cachectic condition supervenes which becomes worse and worse and finally results fatally. Recurrence after operation is the rule in the malignant cases. Surgical treatment is usually much more serious than in simple fibromata on account of adhesions which are often extensive to the intestine, bladder, and abdominal wall and the cardiac and renal disease which often coexists. Fibrocystic degeneration may therefore be regarded as a serious complication of uterine myomata, and is an argument for their early removal.

REVUE DE MEDECINE

April, 1906.

1. A Case of Acromegalia Without Hypertrophy of the Pituitary Body and with Cystic Formation of the Gland, By WIDAL, ROY, and FROIN.
2. Distress in the Course of General Paralysis, By C. FÉRÉ.
3. Obsessional Hallucinatory Representations, and Obsessional Hallucinations, By S. SOUCHANOFF.
4. A Clinical Variety of Mitral Insufficiency Explained by Certain Anatomical Arrangements of the Vascular System, By S. SALAGHI.
5. Concerning the Origin of Sleep. A Study of the Relations Between Sleep and the Functioning of the Pituitary Gland, By A. SALMON.

1. **A Case of Acromegalia.**—Widal, Roy, and Froin believe as the result of their investigations, as follows: 1. An hypophyseal tumor is not invariably present in acromegalia. 2. The pituitary body, in certain cases, does not show macroscopic lesions, but only histological changes which should be carefully investigated. 3. Instead of the positive statement that acromegalia is always associated with a tumor of the hypophysis, it is proper to substitute the statement of Brissand and Lande, and of Lannois and Roy that acromegalia as well as gigantic size are pituitary syndromes. 4. As to the histological changes the cystic degeneration of the hypophysis in the authors' case was characterized by ciliated epithelium upon the cyst wall.

4. **A Clinical Variety of Mitral Insufficiency.**—Salaghi concludes that in view of the origin and the seat of the difficulty which he describes, it cannot be corrected by means of treatment directed solely to the heart's action. The grave consequences of stasis can

be more effectively overcome by producing an extension, as it were, to the periphery. This explains the symptomatic results which the esocardium with its rhythmic impulses gives, in the cases described, upon the abdominal circulation. This subject requires further investigation by clinicians and confirmation when possible by the results of anatomical examination.

5. **Concerning the Origin of Sleep.**—Salmon submits the following propositions. Somnolence appears in the following conditions: 1. Tumors of the hypophysis with or without acromegalia, with glandular hypertrophy and without degenerative phenomena. 2. In myxœdema, for example, after thyroidectomy, with hypertrophy of the pituitary gland. 3. During the initial stage of acromegalia. 4. In the sleeping sickness with hypertrophy of the hypophysis, and in such infectious conditions as influenza there is usually congestion or inflammation of the pituitary gland. 5. In acute toxic conditions, with increase of secretions, as from pilocarpine. 6. In chronic autointoxications. 7. In obesity. 8. In all diseases which may cause hyperæmia of the pituitary glands. Insomnia is observed in the following: 1. In tumors of the hypophysis with degenerative lesions, in acromegalic cachexia with degeneration, in metastatic tumors, etc. 2. In abscess of the hypophysis. 3. In Basedow's disease, with functional disturbance of the hypophysis. 4. In the inanition of old age. 5. In diminution of the blood pressure, as in the cardiopathies in neurasthenia. 6. In atropine poisoning with inhibition of the secretions. 7. In emotion, which is manifested by disturbance of the secretions.

Letters to the Editors.

DOCTOR VERSUS NURSE.

JOHNS HOPKINS HOSPITAL,

BALTIMORE, May 14, 1906.

To the Editors: In the article on The Overtrained Nurse appearing in your issue of April 28th there are several errors which are undoubtedly the result of imperfect information, and for the sake of accuracy, which you, of course, desire, as must also Dr. Gilman Thompson himself, we beg the courtesy of your space sufficient to correct them. The most important mistake is that made on p. 847 to the effect that a nurse is "only licensed to nurse in her own State; in fact, in her own county." This is an entire error. The acts passed for registration of nurses are in no State compulsory. They are everywhere permissive only, simply conferring a title upon those nurses who have worked for a certain grade of education. They do not prohibit any nurse from nursing anywhere, nor do they prevent untrained women from nursing or from charging whatever people choose to pay them. In this respect they differ fundamentally from the laws of many States regarding the teaching and also the practice of medicine. Judge Harlan, chief justice of the Supreme Court of Maryland, has pronounced the nurses' registration acts to be among the most equitable laws on the statute books. Another and sweeping error is that on p. 848, in the paragraphs beginning "We are to-day in the hands of a nurses' trust," etc. The growth of organization among nurses has never affected their charges, nor has the effect of registration anywhere been to alter or modify these charges. As a matter of fact, nurses have charged \$21.00 and \$25.00 a week ever since the founding of the first training schools, in 1873, and, in spite of the fact that the country to-day is vastly wealthier and the cost of living increased by one third, the charges of the nurses the whole country over are the same that they were thirty years ago. Some groups of nurses in the largest cities enjoy somewhat larger returns, but no woman nurse has ever re-

ceived the rate of pay given to men nurses, which rises to \$7.00 a day.

It is a serious injustice to nurses, which we believe you do not desire to commit, to repeat the unfounded prejudices of a certain English group who use the word "trade unionism" with unfriendly purpose against the associations of nurses. "Union prices" are unknown to nurses, nor have they ever taken steps to define or fix a rate of payment. The records of their meetings will be searched in vain for any such action. It is true that untrained women and rejected probationers often charge \$25.00 a week, but this is not in our power to prevent.

The fixed opposition of organized nurses to the practice (now almost everywhere abolished) of sending undergraduates to private duty has been, and is, based on principle, not on selfishness. It is an educational principle and a principle of equity of high importance, as the abuses in this direction formerly known clearly testify.

It should not be necessary to point out that the pay of a nurse does not depend on her time of training. English hospitals have all had a three years' course for many years, yet English nurses are much less well paid than American. As to the benefits of a long training, we should hardly expect to have physicians overlook the fact that the value of training of the nurses lies in the prolonged period of observation and practice of all the special senses, and not in a superficial acquirement of mere manual dexterity. We readily grant the truth of all instances of unsatisfactory nurses. Are there not also instances of imperfections among physicians? What is really needed is, not to send the nurse out of the hospital sooner, but to bring more of the home atmosphere into our hospitals. In the matter of over-training, it is the experience of many superintendents that constant vigilance and even direct opposition are required to prevent some members of the medical staff from requiring routine medical duties similar to the counting of leucocytes (which Dr. Thompson mentions) from the nurses. In one prominent hospital known to the writers the superintendent of nurses has had to interfere to prevent the nurses from being detailed to record blood pressure, take down notes of medical histories, etc., for the convenience of the staff. There are many minor inaccuracies in Dr. Thompson's paper, which your space will forbid our going into; they are not, perhaps, of great importance. May we only add one more plea for justice? That is, that it is not fair to assume as facts all the editorial comments made on nursing affairs in journals dealing with nursing which are not conducted by nurses.

LAVINIA L. DOCK, R. N.,

Secretary of the International Council of Nurses.

ADELAIDE NUTTING, R. N.,

President of the American Federation of Nurses.

BUFFALO, May 15, 1906.

To the Editors: The growing dissatisfaction of the profession with the methods and results of our training schools for nurses has broken out into open criticism and discussion. The papers read before the New York Academy of Medicine a few weeks ago and printed in this *Journal* for April 28th voiced the opinions of many medical men in all parts of the country.

That this spirit of criticism is smartly resented by the nurses themselves, or at least by their ostensible leaders, is evident from the tone of the *American Journal of Nursing*, which serves as the "official organ" of some half dozen of the largest nursing organizations of the country. This journal complains editorially that the criticisms of the medical men who spoke at this meeting were almost abusive, and that they showed lack of knowledge on their part and ignorance of the motives of trained nurses. With a re-

markable *naïveté* the editor passes on to a categorical statement of these motives: "No one more than nurses themselves appreciates the unsatisfactory, chaotic conditions existing in the nursing field to-day, the result largely of medical dominance and medical teaching of nurses. The whole broad aim of the nursing movement is to better these conditions, in cooperation with the great medical body so far as may be, in independence of that body if must be, the ultimate aim being a better educated class of women, a more useful and practical type of nurse, with better nursing service *in the homes of all the people*, and a more intelligent service to the physician, but with this difference, the nurse of the future will work with the physician as his assistant and intelligent coworker and not as his—servant. It is the social uplift coming through organization and State registration that we think these gentlemen object to."

Naturally it will be admitted that, had the gentlemen known these facts, their remarks would have pursued a different course, if, indeed they had not chosen the better part of valor and sought to protect themselves from being upset by this "social uplift"—as helpless folk seek security from earthquakes or other upheavals.

After replying to certain of the criticisms emanating from these "men with a grievance," the editor says, in a truly retributive spirit: "We think possibly the time has come for the nurses to hold a public symposium on doctors and tell of the things that doctors do that are not to the advantage of the hospitals with which they are connected or the patients for whom they care." A few modern instances are cited in what the editor probably considers to be her playful vein, for she winds up with: "But, seriously, the opposition to higher education for nurses is but a part of the old worn out opposition to higher education for women as a whole. We have only to demonstrate that it makes better nurses, and go steadily on."

"Steadily on" reminds us of the young fellow in *Excelsior*, who was in such a rush to get there that he lost his gumption and turned down the friendly tips of a number of honest but conservative friends; at the finish he was out in the cold and all alone, with nothing to show for it but his "banner with the strange device."

The more one sees of the nursing element represented by the writer the more evident it becomes that it is their deliberate policy to resent all interference with nursing matters on the part of doctors, and even to repudiate the old debt to the medical profession which once all nurses were free to acknowledge. "Did women ever obtain anything worth having without having opposition from men," exclaims "an R. N., but not an overtrained nurse," who writes of her impressions of the meeting referred to above. The *American Journal of Nursing* has a chronic habit of sneering at all man managed institutions and prays for the day when the trained nurse shall dictate the policy of all hospitals, training schools, and examining boards, and when no nurse shall think of reading any nursing journal that is not owned, managed, and edited by trained nurses—a consummation devoutly to be wished for in the interests of this same journal, by the way.

While the nurses are jealously patrolling their preserves and warning physicians and other trespassers to keep off the grass, an observer can scarcely repress the thought that the real motive back of this enterprise is a purpose on the part of "prominent" functionaries to exploit the profession "for the good of the cause" by keeping the motive power and the steering gear in their own hands. In this respect they are merely recapitulating the career of the nursing profession in England, and they have the inspiration of the *British Journal of Nursing*, which modestly pursues its busi-

ness as "the only weekly professional journal which can claim to represent nursing opinion as it alone is edited, and its policy controlled, by trained nurses." "Shades of Scutari!" shouts this wounded and indignant journal, "when it is possible for a medical man to make the vain and impertinent boast in a meeting of nurses that 'medical men have made the profession of nursing what it is.'"

Physicians will be somewhat surprised, I venture to say, when they are told that, according to the dictum of this potent weekly, all medical journals are classed, along with all other rubbish, as "lay journals" and liable to create untold mischief when read by innocent trained nurses. The *British Journal of Nursing* feels itself quite capable of supplying all the "professional" reading matter that it is safe for the British nurse to read without getting badly mixed in her head, and yet it has to keep whipping her into line.

To all such domineering tactics there must some time come at end. When the trained nurses realize that efforts are made to dupe them into a position of open antagonism to their friends and patrons in the medical profession, then they will rally under new leaders, with a policy that shall be less ambitious perhaps, but far more sane. A great many nurses are even now thinking for themselves and selecting from the increasing supply of literature that which best satisfies their growing demands. It will be difficult for any combination, however astute, to monopolize the supply of ideas for nurses as the beef trust has monopolized our food supply.

MEDICUS.

Proceedings of Societies.

ASSOCIATION OF AMERICAN PHYSICIANS.

Twenty-first Annual Meeting, Held in Washington, May 15 and 16, 1906.

The President, Dr. FRANK BILLINGS, of Chicago, in the Chair.

A Telegraphic Greeting from Dr. William Osler, of Oxford, England, was read by the president.

A Letter from Dr. Philip King Brown, of San Francisco, was read. The writer stated that one of the crying needs of the moment in San Francisco for the physician was a good consulting library. Most of the physicians had suffered the loss of their libraries, and the library of the California State Medical Society had been completely lost. Brother physicians could extend a helping hand to their San Francisco brethren in no better way than by supplying the need of books. The association at once ordered copies of its *Transactions* sent as the first contribution, and a committee was appointed to consider the subject of bringing library needs before members of the profession throughout the country. Dr. Osler had promised to cooperate in the work in England.

Blood Pressure in Mitral Insufficiency.—This paper was read by Dr. W. J. McCALLUM, of Baltimore, who discussed the mechanism of the blood pressure changes in mitral insufficiency. Arterial blood pressure fell in all cases because of the overfilling of the pulmonary vessels at the end of the systole. As a consequence of the backing up of the blood in the lungs a reflux wave could be demonstrated in the pulmonary circulation. Ordinarily the pulmonic circulation showed no evidence of being influenced by pulse waves of this kind, but in the congestion incident to mitral insufficiency they became very marked.

Venous and Arterial Blood Pressure.—Dr. HENRY SEWALL, of Denver, discussed a series of experiments on venous blood pressure and its relation to arterial pressure in human beings. The circulation might be divided into the somatic and splanchnic areas, and arterial blood pressure was determined to a considerable

extent by the pressure in the splanchnic area. The effect of gravity was to cause a higher pressure; hence the rise in blood pressure when the person was standing or the hands were held above the head. Dr. Sewall had made his experiments with an ingenious gauge invented by himself which enabled him to determine the pressure in the venous system. With this he had come to the following conclusions: Blood pressure in the superficial veins depends upon the ratio of input to outflow. The former is greatly increased by muscular exercise and somewhat by heat. The latter is decreased by cold, causing contraction of veins, and by obstruction to the entrance of blood into the heart. In some persons venous pressure falls, in others rises, during digestion. The digestive rise in pressure is probably due to obstructive elevation of pressure in the right auricle. The movements of respiration, aside from their aspirating effect on the venous blood, have fundamental importance as an aid to the transfer of blood from arteries to veins. With deep inspiration the peripheral veins swell, and the pressure within them increases. This is often evident with ordinary inspiration. It may be demonstrated when a strip of paper, gummed on one side, is stuck by the side of a vein of the hand or forearm and rests across the vessel like a lever. It can be shown that both cardiac and respiratory variations of arterial blood pressure are frequently transmitted through the capillaries.

Rupture of a Thoracic Aneurysm Into the Superior Vena Cava.—Dr. HOWARD FUSSELL, of Philadelphia, described a case of this rare accident with typical symptoms. The man had been perfectly well until three days before he came to the hospital. There was no shortness of breath, no pain, and no special fatigue on exertion. He was suddenly taken with severe dyspnoea, and his face, neck, and arms became swollen. He became very blue, and his condition grew worse, so that when he came to the hospital there was urgent dyspnoea and his face was almost indigo in color. The oedema was marked in the arms, face, neck, and trunk, but did not extend to the lower limbs. An area of dulness was found under the upper part of the sternum, also a faint to and fro murmur. The man died in forty-one days, of exhaustion. At the autopsy a small aneurysm was found which had ruptured into the vena cava. The smallness of the aneurysm was the reason for the absence of all preliminary symptoms. While the symptomatic picture was typical, the loud singing murmur often present in these cases was not recognizable. It would seem to be absent in nearly half the cases. The picture presented was so striking as to make the diagnosis rather easy.

Varicose Aneurysm of the Aorta and Superior Cava.

—Dr. CHARLES CARY, of Buffalo, sent a description of a similar case. There were striking cyanosis and oedema of the neck, arms, and trunk. When the man came into the hospital he was almost black. In spite of his hopeless look he was not unconscious, and his history was obtained. He had suffered for four years with dyspnoea. While lifting, a few days before, he had had the feeling of something giving way within his chest, and then the sensation of blood or water rushing up toward his neck and shoulder. At the same time there was a severe pain in the mammary region. At the autopsy a rupture of the aorta into the cava was found. The most typical part of the picture presented clinically was the abrupt ending of the oedema along the line of the diaphragm.

Rupture of the Oesophagus Into a Bronchus by the Pressure of an Aneurysm.—Dr. J. H. MUSSER, of Philadelphia, described a case seen recently in which an aneurysm pressed upon a bronchus, and this in turn upon the oesophagus. The result was the establishment of a communication between the bronchus and

oesophagus, with insuflation of food material and consequent fatal bronchopneumonia.

Dr. J. P. CROZER GRIFFITH, of Philadelphia, said that in a case of rupture of an aneurysm of the aorta into the vena cava studied by him with Dr. Pepper, there was a peculiar loud singing murmur which was absolutely continued. There was not the slightest break in it at any time.

An Experimental Study of Cardiac Murmurs.—Dr. W. S. THAYER, of Baltimore, described some recent studies on the heart sounds and cardiac murmurs by direct auscultation of the exposed heart of the dog. In some cases the murmurs in the dog's heart were very like those heard in human beings. Mitral insufficiency was imitated by tearing one of the mitral leaflets. Mitral stenosis was imitated by means of a clamp.

Dr. W. S. MACCALLUM, of Baltimore, demonstrated the instruments by which pathological conditions simulating those of human beings were produced in the dogs. A hook was introduced through the auricular appendage, and in this way the mitral valves were rendered insufficient. It was suggested that in this way students might learn the exact significance of heart sounds and realize the mechanical moments in the production of heart murmurs better than by clinical studies.

Dr. LEWELLYS F. BARKER, of Baltimore, said that these experiments might be considered as contributions to pathological physiology and would surely prove of help in clinical medicine. So far, pathological anatomy had occupied the attention of students, and yet it very seldom gave information of clinical value. These methods were developments in true experimental medicine.

Nicotine and Arterial Sclerosis.—Dr. ISAAC ADLER, of New York, presented the results of some experiments made by himself and Dr. O. Hensel, of New York, with regard to the effects of intravenous injections of nicotine. Such injections produced lesions in the aorta of rabbits almost identical with those caused by adrenalin and digitalis. The rule was to inject 1.5 milligrammes of pure nicotine into a vein. This was followed every time by a typical and violent convulsion. In this respect no tolerance to the drug was ever obtained, even after a hundred injections. After a few minutes, however, the animal recovered completely and ate and acted quite normally. As regarded the changes in the aorta, some animals were quite immune, while others were very susceptible. In some the lesions were seen after eighteen injections, while in others there was no effect after seventy-seven. The first thing affected was the muscle cells. The longitudinal fibres remained unaffected, and only the inner circular fibres suffered. When the pathological condition was diffuse, aneurysmal distention took place. Calcareous deposits were quite frequent. There was hypoplasia of the intima. The elastic fibres played a passive rôle. They gave way after a time, with the yielding of the muscle, but there was no active pathological process in them.

Clinical Observations on Arteriosclerosis from Alimentary Toxines.—Dr. C. S. BOND, of Richmond, Ind., discussed a series of cases of arteriosclerosis observed during the last twenty years in which there was no Bright's disease, no alcohol, no syphilis, and none of the usual effects of senility to account for the process. In all of them there were distinct disturbances of the alimentary canal, usually associated with constipation, and he had been forced to the conclusion that the absorption of toxic material from the intestinal tract was quite sufficient to produce these arterial changes.

Dr. JOSEPH L. MILLER, of Chicago, discussing Dr. Adler's paper, said that he had succeeded in producing swelling of the elastic fibres by injections of barium chloride. The condition produced showed tissues that took the stains for degeneration. This form of arterial

change was much like the ordinary arteriosclerosis of man.

Dr. JOSEPH COLLINS, of New York, said that the injection of pure nicotine was a very different thing from the absorption of the material by smokers. At the present time he was engaged in a series of observations on rabbits in which the animals were subjected for a prolonged period to the inhalation of tobacco smoke every day. They were immured in a chamber where tobacco was burning. This produced no convulsions, no rise of blood pressure, and no factors that would disturb the conclusions.

Dr. HOBART A. HARE, of Philadelphia, said that such observations on animals needed to be controlled very carefully. A typical example of lack of control had been furnished some years ago by a series of experiments on cats to show how chloroform produced its action on the kidneys. A distinct fatty change was found just underneath the capsule of the kidney, but, as was pointed out later by Dr. Welch, a layer of fat beneath the capsule of the kidneys was normal in cats.

Dr. ADLER said that a previous series of experiments had shown that tobacco juice by the mouth produced no effect on the aorta; hence the present observations. A series of drugs had been used to try to prevent the convulsions, but without success.

Tricuspid Insufficiency in Pernicious Anæmia.—Dr. ROBERT B. PREBLE, of Chicago, said that in a case of severe pernicious anæmia he had observed a positive pulse in the jugular veins. Mitral leakages in this condition were often noted, but tricuspid insufficiency seemed to have escaped observation. He had since seen it in another case, and there seemed to be no doubt that it was much more common than had been supposed. There was no œdema, no congestion of the liver, no dyspnoea, no cyanosis, and no cardiac failure associated with it, so that it would not be difficult to distinguish it from a true pathological condition of the tricuspid valves.

Typhoid Spine, with Definite Deposits of Bone.—Dr. THOMAS McCRAE, of Baltimore, reported a case in which a patient suffering from typhoid fever presented all the usual clinical features of typhoid spine. Definite changes were found in the vertebræ, and the x ray pictures seemed to show that they were bony in character. In another patient suffering from paracolon infection the same changes in the vertebræ were also noted. In this case, however, the diagnosis was more difficult because of a history of preceding gonococcus infection which might have been the primary cause of their production. Dr. McCrae thought that in other infections there were lesser grades of this same pathological condition, and that many of the forms of arthritis deformans were due to infections of various kinds. So far, no case of suppuration following infection of this kind in typhoid fever had been reported, but there seemed to be every reason to think that sometimes the infective process would be severe enough to produce suppuration. The most interesting feature of typhoid spine was the amount of complaint made by the patient, though the lesions were comparatively slight. Usually this had been attributed to the fact that the patient's nervous system was worn out by the typhoid fever. It would seem, however, that even small lesions of the spine in normal individuals were likely to be followed by severe neurotic and almost hysterical symptoms. The pain of spondylitis seemed to demoralize more than any other.

Dr. JAMES B. HERRICK, of Chicago, said that he was glad to have Dr. McCrae rescue typhoid spine from the list of merely functional diseases and point out the existence of definite lesions for it.

Dr. THAYER, of Baltimore, said that the tendency to exaggeration of complaints was noted also in other affections of the spinal column, as, for instance, after

secondary carcinoma. While the pains complained of were indefinite, the amount of complaint was very great.

Dr. COLLINS, of New York, said that in certain cases diagnosed as general spondylitis because of the extreme tenderness of the spine with many neurasthenic symptoms, operations upon the seminal vesicles had been followed by relief.

Dr. JOHN K. MITCHELL, of Philadelphia, reported a case in which for several years the patient had been unable to lie on her back because of the extreme tenderness of it, and finally a point of necrosis was found at the tip of a vertebral process and removed. Though the portion of necrotic tissue was not larger than a ten cent piece, the relief afforded was immediate, complete, and lasting.

Dr. SOLOMON SOLIS COHEN, of Philadelphia, said that in most of these cases of extremely tender spine there seemed to be no doubt that besides the spondylitis there was also some change in the spinal column.

Dr. McCRAE said that not all the cases of typhoid spine presented such organic lesions, and some of them were possibly merely functional. In these cases, however, x ray plates had shown the presence of new bone formation.

False Stone in the Kidney.—Dr. JAMES TYSON, of Philadelphia, described certain cases of supposed stone in the kidney with most of the typical symptoms, in which, on operation, no stone was found. In all the cases adhesions were found between the capsule and the kidney itself. In all these cases the x ray diagnosis was negative. All the patients were relieved by the operation. Three of them had no further symptoms. In one case, complicated by adhesions of the liver, there was relief for a time, but there was a subsequent relapse of the symptom.

Dr. COHEN said that the simulation of stone was more frequent than had been thought, and these cases threw a light on the subject.

Recurrent Acute Pulmonary Œdema.—Dr. DAVID RIESMAN, of Philadelphia, after stating the usual types of pulmonary œdema described in textbooks, called special attention to another type. It was an œdema that recurred from time to time, and in each attack seemed to place the patient in imminent danger of dissolution. The onset was acute. The lungs and air passages rapidly filled up with fluid, which gushed from the mouth and nose. The fluid was serous, frothy, sometimes tinged with blood, so as to resemble raspberry vinegar. The dyspnoea was intense; the patient was either ashen pale or deeply cyanosed and gasping for breath. Over the chest were the characteristic râles of œdema. The pulse was full and bounding or imperceptible at the wrist. At the height of the attack the patient appeared to be at the point of suffocation. Like angina pectoris, the first attack of such an acute œdema might kill, but more often the condition recurred. Acute pulmonary œdema of the type described had been met with by the writer in association with chronic interstitial nephritis, arteriosclerosis, angina pectoris, and asthma. A peculiar œdema that in the acuteness of its onset and the gravity of its symptoms resembled the one under consideration, was that sometimes following paracentesis thoracis, of which, under the head of albuminous expectoration, Dr. Riesman had recorded an example. He now related five cases. The causes of these lung œdemas were varied. Some were surely toxic, with disturbance of the vasomotor mechanism. In others there was a sudden weakening of the left ventricle. The treatment depended on the cause in the spinal case. When there were cyanosis and a high tension pulse, bleeding afforded immediate relief. For heart weakness, atropine and the diffusible stimulants were indicated. Dry cupping was often effective.

(To be continued.)

Book Notices.

An Atlas of Human Anatomy for Students and Physicians. By CARL TOLDT, M. D., Professor of Anatomy in the University of Vienna, Assisted by Professor ALOIS DALLA ROSA, M. D. Translated from the Third German Edition and Adapted to English and American and International Terminology by M. EDEN PAUL, M. D. Brux., M. R. C. S., L. R. C. P. Sixth Section. G, Neurology. H, The Organs of the Senses. (Figures 1124 to 1505 and Index.) London: Rebman, Limited. New York: Rebman Company, 1904. Pp. 745-985. (Price, \$4.75.)

This concluding section well sustains the excellence of Professor Toldt's important work, the preceding sections of which we have already noticed. While the whole atlas would constitute a worthy addition to any medical library, there will be some undoubtedly who will be glad to take advantage of the fact that the sections may be had separately. The appendix to the sixth section, made up of notes by the translator, contains a great deal of anatomical information for which the reader might have to seek far and wide if he were to depend on other publications. Indeed, we must highly commend Dr. Paul's work as a whole, for rarely do we find such a smooth English equivalent of German technical writing.

Official News.

Public Health and Marine Hospital Service
Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ending May 18, 1906:

| Smallpox—United States. | | | |
|------------------------------|-----------------|--------|----------|
| Places. | Date. | Cases. | Deaths. |
| Florida—General | Apr. 28-May 5 | 10 | 1 |
| Illinois—Chicago | May 5-12 | 1 | 1 |
| Indiana—Terre Haute | May 5-12 | 1 | 1 |
| Kentucky—Covington | May 5-12 | 1 | 1 |
| Maryland—Baltimore | May 5-12 | 1 | 1 |
| Maryland—Crisfield | May 7 | 1 | 1 |
| Minnesota—General | Apr. 23-May 7 | 18 | 1 |
| New Hampshire—Portsmouth | May 10 | 1 | 1 |
| New York—Buffalo | May 5-12 | 1 | 1 |
| New York—Haverstraw | May 9 | 1 | 1 |
| New York—New York | May 5-12 | 3 | 2 |
| New York—Roswell | Apr. 1-30 | 2 | 1 |
| Ohio—Toledo | Apr. 28-May 5 | 1 | 1 |
| Rhode Island—Pawtucket | Mar. 23 | 4 | 1 |
| Tennessee—Knoxville | May 5-12 | 1 | 1 |
| Smallpox—Insular. | | | |
| Philippine Islands—Manila | Mar. 17-31 | 2 | 1 |
| Smallpox—Foreign. | | | |
| Africa—Cape Town | Mar. 24-Apr. 17 | 14 | Present. |
| Africa—Freetown | Apr. 18 | 1 | 1 |
| China—Hongkong | Mar. 24-31 | 12 | 11 |
| China—Shanghai | Apr. 7-14 | 1 | 1 |
| Ecuador—Guayaquil | Apr. 12-24 | 5 | 5 |
| Gibraltar | Apr. 22-29 | 4 | 1 |
| Great Britain—Bristol | Apr. 21-28 | 4 | 1 |
| Great Britain—Glasgow | Apr. 27-May 4 | 1 | 1 |
| India—Bombay | Apr. 10-17 | 14 | 14 |
| India—Calcutta | Mar. 31-Apr. 7 | 137 | 137 |
| India—Karachi | Apr. 8-15 | 21 | 17 |
| India—Madras | Apr. 7-13 | 30 | 30 |
| India—Rangoon | Mar. 31-Apr. 7 | 61 | 61 |
| Italy—General | Apr. 19-26 | 38 | 38 |
| Japan—Formosa | Mar. 1-31 | 5 | 5 |
| Japan—Yokohama | Apr. 7-14 | 2 | 2 |
| Netherlands The—Flushing | Apr. 21-May 5 | 3 | 3 |
| Netherlands The—Rotterdam | Apr. 29-May 5 | 1 | 1 |
| Russia—Moscow | Mar. 31-Apr. 21 | 37 | 6 |
| Russia—Odessa | Apr. 7-21 | 16 | 4 |
| Yellow Fever—Foreign. | | | |
| Ecuador—Guayaquil | Apr. 12-24 | 17 | 17 |
| Cholera—Insular. | | | |
| Philippine Islands—Manila | Mar. 17-24 | 1 | 1 |
| Philippine Islands—Provinces | Mar. 17-31 | 27 | 23 |
| Cholera—Foreign. | | | |
| India—Bombay | Apr. 10-17 | 26 | 26 |
| India—Calcutta | Mar. 31-Apr. 7 | 43 | 43 |
| India—Madras | Mar. 31-Apr. 6 | 1 | 1 |
| Plague—Insular. | | | |
| Hawaii—Honolulu | May 12-16 | 5 | 5 |

Plague—Foreign.

| | | |
|----------------|----------------|-----|
| India—Bombay | Apr. 10-17 | 875 |
| India—Calcutta | Mar. 31-Apr. 7 | 301 |
| India—Karachi | Apr. 28-15 | 194 |
| India—Rangoon | Mar. 31-Apr. 7 | 72 |
| Japan—Kobe | Mar. 24-Apr. 7 | 2 |

Public Health and Marine Hospital Service:

List of Changes of Station and Duties of Commissioned and Non-Commissioned Officers of the Public Health and Marine Hospital Service, for the seven days ending May 10, 1906:

- BILLINGS, W. C., Passed Assistant Surgeon. Granted leave of absence for five days, from April 23, 1906.
- BILLINGS, W. C., Passed Assistant Surgeon. Granted leave of absence for one day, May 6, 1906.
- DELGADO, J. M., Acting Assistant Surgeon. Granted leave of absence for twenty-six days, from May 14, 1906.
- EARLE, B. H., Passed Assistant Surgeon. Leave of absence granted Passed Assistant Surgeon Earle for four months, from February 4, 1906, amended so as to be for three months and three days only.
- EBERT, H. G., Assistant Surgeon. Relieved from special temporary duty in San Francisco, and directed to rejoin his station at Seattle, Wash.
- GRUBBS, S. B., Passed Assistant Surgeon. Temporarily relieved at Chicago, Ill., and directed to proceed to Cleveland, Ohio, May 31st, for temporary duty.
- GUTHRIE, M. C., Assistant Surgeon. Relieved from duty at Ellis Island, N. Y., and directed to proceed to Havana, Cuba, reporting to Passed Assistant Surgeon R. H. von Ezdorf for duty.
- KERR, J. W., Assistant Surgeon General. Detailed to represent the Service at the meeting of the National Association for the Study and Prevention of Tuberculosis, in Washington, D. C., May 16-18, 1906.
- OAKLEY, J. H., Passed Assistant Surgeon. Relieved from special temporary duty at San Francisco, Cal., and directed to rejoin his station at Port Townsend, Wash.
- OTTAWAY, J. E., Acting Assistant Surgeon. Directed to proceed from Charlotte to Rochester, N. Y., for special temporary duty, upon completion of which to return to Charlotte.
- ROSENAU, M. J., Passed Assistant Surgeon. Granted leave of absence for two days, from May 11, 1906, under Paragraph 189 of the Regulations.
- SALMON, T. W., Assistant Surgeon. Granted leave of absence for seven days, from May 10, 1906, under Paragraph 191 of the Regulations.
- SCHUG, F. J., Acting Assistant Surgeon. Leave of absence granted Acting Assistant Surgeon Schug for fifteen days, from May 3, 1906, amended to be effective from June 8, 1906.
- SMITH, A. C., Surgeon. Granted leave of absence for seven days, from May 14, 1906.
- STANSFIELD, H. A., Passed Assistant Surgeon. Relieved from duty in the Hygienic Laboratory, Washington, D. C., and directed to proceed to Baltimore, Md., reporting to the Medical Officer in Command, for duty and assignment to quarters.

Boards Convened.

A board of medical officers was convened to meet at the Bureau, in Washington, D. C., May 22, 1906, for the purpose of making physical examinations of applicants for the position of cadet in the Revenue Cutter Service. Detail for the Board: Assistant Surgeon General W. J. Pettus, Chairman; Assistant Surgeon General J. M. Eager, Recorder.

A board of medical officers was convened to meet at Mobile, Ala., May 17, 1906, for the purpose of conducting a physical examination of an officer of the Revenue Cutter Service. Detail for the Board: Passed Assistant Surgeon Edward Francis, Chairman; Acting Assistant Surgeon A. S. Taylor, Recorder.

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army, for the week ending May 19, 1906:

- BANISTER, J. M., Lieutenant Colonel and Deputy Surgeon General. Relieved from treatment at the General Hospital, Washington Barracks, D. C., and will return to his proper station.

GLENNAN, JAMES D., Major and Surgeon. Appointed a member of a board of medical officers to meet at West Point, N. Y., about June 1, 1906, for the physical examination of the cadets of each class at the United States Military Academy, and such candidates for admission as may be ordered to appear before it.

KIRBY-SMITH, R. M., Captain and Assistant Surgeon. Relieved from duty in the Philippines Division, to take effect August 1, 1906, and will proceed by the first available transport sailing after that date to San Francisco, Cal., and upon arrival report by telegraph to the Military Secretary of the United States Army for further orders.

LITTLE, WILLIAM L., First Lieutenant and Assistant Surgeon. Reported for temporary duty at Fort Sill, O. T. Left Fort Sam Houston, Texas, May 9, 1906.

PERLEY, H. O., Lieutenant Colonel and Deputy Surgeon General. Appointed a member of a board of medical officers to meet at West Point, N. Y., about June 1, 1906, for the physical examination of the cadets of each class at the U. S. Military Academy, and such candidates for admission as may be ordered to appear before it.

ROBERTS, WILLIAM, Assistant Surgeon. Granted ten days' leave of absence.

RUSSELL, F. F., First Lieutenant and Assistant Surgeon. Appointed a member of an examining board to meet at the Presidio of San Francisco, Cal., for examination of such candidates for appointment in the Medical Corps of the Army as may be invited to appear before it.

RUTHERFORD, H. H., First Lieutenant and Assistant Surgeon. Appointed a member of an examining board to meet at the Presidio of San Francisco, Cal., for examination of such candidates for appointment in the Medical Corps of the Army as may be invited to appear before it.

SHOOK, JAY R., Captain and Assistant Surgeon. Granted leave of absence for one month and fifteen days.

STEPHENSON, WILLIAM, Major and Surgeon. Appointed a member of an examining board to meet at the Presidio of San Francisco, Cal., for examination of such candidates for appointment in the Medical Corps of the Army as may be invited to appear before it.

STRAUB, PAUL F., Major and Surgeon. Appointed a member of a board of medical officers to meet at West Point, N. Y., about June 1, 1906, for the physical examination of the cadets of each class at the United States Military Academy and such candidates for admission as may be ordered to appear before it.

WILSON, WILLIAM H., Captain and Assistant Surgeon. Ordered to report in person, May 22, 1906, to Major William H. Arthur, surgeon, president of the examining board, Army Medical Museum Building, Washington, D. C., for examination for promotion.

Navy Intelligence:

Official List of Changes in the Medical Corps of the United States Navy, for the week ending May 19, 1906:

ALLEN, A. H., Assistant Surgeon. Appointed an assistant surgeon, with the rank of lieutenant, junior grade, from May 2, 1906.

BROWN, H. L., Assistant Surgeon. Detached from the *Texas*, and ordered home to await orders.

CAMPBELL, R. A., Acting Assistant Surgeon. Detached from the Naval Recruiting Station, Cincinnati, Ohio, and ordered to the Midway Islands.

CORDEIRO, F. J. B., Surgeon. Having been examined by a recruiting board and found incapacitated for active service on account of disability incident thereto, is retired from active service, May 9, 1906, under the provision of section 1453, Revised Statutes.

CURL, H. C., Surgeon. Commissioned a surgeon, with the rank of lieutenant commander, from December 16, 1906.

HAYNES, J. P., Assistant Surgeon. Ordered to the Naval Hospital, Washington, D. C.

MANCHESTER, J. D., Assistant Surgeon. Ordered to duty at the Naval Recruiting Station, Cincinnati, Ohio.

MILLER, JAMES, JR., Assistant Surgeon. Died at Midway Islands, May 13, 1906.

PUGH, W. S., JR., Assistant Surgeon. Ordered to the *Lancaster*.

REEVES, I. S. K., Assistant Surgeon. Ordered to the Naval Hospital, Boston, Mass.

Births, Marriages, and Deaths.

Married.

CHESBRO—DAVIS.—In Washington, D. C., on Wednesday, May 9th, Dr. Ellis Chesbro, of Cleveland, and Miss Eugenia Davis.

MCNEILL—MASON.—In Philadelphia, on Tuesday, May 22nd, Dr. Robert J. McNeill and Miss Jane E. Mason.

MORRIS—MURPHY.—In New York, on Saturday, May 12th, Dr. Lewis Morris, United States Navy, and Miss Mary Gibbs Murphy.

SMART—LYNCH.—In New York, on Saturday, May 19th, Dr. William M. Smart, United States Army, and Miss Catherine Lynch.

Died.

ARMINGTON.—In Clifton Springs, N. Y., on Monday, May 14th, Dr. George D. Armington, aged eighty-eight years.

COLLARD.—In Ossining, N. Y., on Monday, May 7th, Dr. Philander Collard, aged sixty-one years.

CRANE.—In Cincinnati, on Monday, May 7th, Dr. William H. Crane.

DEAN.—In New York, on Sunday, May 13th, Dr. Joseph A. Dean, aged thirty-one years.

FOUNTAIN.—In New York, on Friday, May 11th, Dr. Eliza J. Pierce Fountain, aged sixty-nine years.

FRANCE.—In St. Joseph, Missouri, on Wednesday, May 9th, Dr. J. M. D. France, aged sixty-four years.

GANDY.—In Buffalo, N. Y., on Tuesday, May 9th, Dr. Lewis T. Gandy, of Chili, aged fifty-eight years.

GARTON.—In Philadelphia, on Tuesday, May 8th, Dr. Walter E. Garton, aged twenty-seven years.

GIBSON.—In Bissell, Missouri, on Saturday, May 12th, Dr. James E. Gibson, aged seventy years.

GROSS.—In Camden, N. J., on Wednesday, May 9th, Dr. O. B. Gross, aged fifty-five years.

HAYWARD.—In Malden, Massachusetts, on Friday, May 11th, Dr. Carrie M. Hayward, aged thirty-five years.

JOHNSON.—In Reading, Pennsylvania, on Tuesday, May 15th, Dr. Newell L. Johnson, of Williamsport, aged forty-four years.

JOHNSON.—In Easton, Maryland, on Wednesday, May 9th, Dr. Julius A. Johnson, aged fifty-six years.

KELSEY.—In Boyers, Colorado, on Tuesday, May 8th, Isabella Allen Kelsey, wife of Dr. C. C. Kelsey, of Minneapolis.

LATIMER.—In Baltimore, on Wednesday, May 16th, Dr. Thomas S. Latimer, aged sixty-seven years.

MCDONALD.—In Lynn, Massachusetts, on Friday, May 11th, Dr. William A. McDonald, aged sixty-two years.

MCWAYNE.—In Hoosick Falls, N. Y., on Thursday, May 10th, Dr. LeRoy D. McWayne.

MONTAGUE.—In Fredericksburg, Virginia, on Wednesday, May 16th, Dr. T. C. Montague, aged sixty-eight years.

MURRAY.—In Baltimore, on Tuesday, May 8th, Dr. M. D. Murray, of Pinewood, South Carolina, aged thirty-eight years.

OSTERMANN.—In Salt Lake City, Utah, on Thursday, May 3rd, Dr. James Ostermann, aged thirty-two years.

PARKER.—In South Weymouth, Massachusetts, on Wednesday, May 9th, Dr. Louisa F. Parker, aged ninety-three years.

STANSFIELD.—In Washington, D. C., on Thursday, May 3rd, Frances E. Stansfield, wife of Dr. H. A. Stansfield, United States Public Health and Marine Hospital Service.

THORPE.—In Boyleston, Indiana, on Sunday, May 6th, Dr. Levi Thorpe, aged fifty-one years.

WARREN.—In Syracuse, N. Y., on Monday, May 7th, Dr. Solomon C. Warren, aged seventy-three years.

WINLEY.—In Benton, Pennsylvania, on Thursday, May 10th, Dr. J. W. Winley.

New York Medical Journal

INCORPORATING THE

Philadelphia Medical Journal and The Medical News

A Weekly Review of Medicine

VOL. LXXXIII, No. 22.

NEW YORK, JUNE 2, 1906.

WHOLE No. 1435.

Original Communications.

CRITICAL ANALYSIS OF 186 OPERATIONS UPON THE LIVER AND GALL PAS- SAGES, AND THE AFTER RESULTS.

By CLARENCE A. McWILLIAMS, M. D.,
NEW YORK,

INSTRUCTOR IN SURGERY, COLUMBIA UNIVERSITY; SUR-
GEON TO TRINITY HOSPITAL; ASSISTANT SURGEON TO
PRESBYTERIAN HOSPITAL.

The statistics embodied in the following pages are made up from the operations which have been performed in the Presbyterian Hospital, from 1890 to January 1, 1905, on the liver and biliary passages. They are divided as follows:

| | |
|--|-----|
| Operations for biliary calculi | 111 |
| Operations for cholecystitis without calculi | 14 |
| Operations for malignant growths of the liver | 25 |
| Operations for echinococcus cysts of the liver | 2 |
| Operations for abscesses of the liver | 16 |
| Operations for traumatic affections of the liver | 6 |
| Operations for cirrhosis of the liver with ascites | 12 |

Total operations.....186

The relative frequency of pathological processes in the gallbladder and liver may be appreciated in some measure by considering the number and variety of the lesions which occurred in these organs in 1,000 consecutive autopsies performed in the pathological department of the Presbyterian Hospital from 1888 to 1897. These statistics were compiled by Dr. John S. Thacher, and were published in the *Medical and Surgical Report* of that hospital, v, p. 170, 1902. They are as follows:

| | |
|----------------------------------|-------------------------------|
| Bullet wound of liver ... 2 | Hypertrophic cirrhosis.... 13 |
| Laceration of liver..... 8 | Syphilitic cirrhosis..... 1 |
| Pylephlebitis | 2 |
| Leucemic infiltration of liver 1 | |
| Infection of liver..... 1 | Cyst of liver..... 2 |
| Fatty degeneration of liver 145 | Anomalous form of liver.. 1 |
| Waxy degeneration of liver 7 | Angeloma of liver..... 5 |
| Nutmeg liver..... 147 | Cancer of liver..... 21 |
| Abscess of liver..... 14 | Sarcoma of liver..... 2 |
| Tuberculosis of liver..... 17 | |
| Cirrhosis of liver..... 77 | Total.....466 |

GALLBLADDER AND DUCTS

| | |
|-----------------------------|------------------------------|
| Rupture of gallbladder... 1 | Gallstone in cystic duct.. 2 |
| Gangrene of gallbladder.. 1 | Gallstone in common duct. 4 |
| Cholecystitis | 3 |
| Delayed bile duct..... 1 | |
| Scar of gallbladder..... 1 | |
| Cancer of gallbladder.... 1 | Total..... 82 |
| Gallstones | 68 |

BILIARY CALCULI.—There were 111 operations on the biliary passages for calculi, and of these thirteen died, or a mortality of twelve per cent. Of these, ninety-nine were primary operations, with eleven deaths, and twelve secondary, with two deaths. In seven of the twelve secondary operations no calculi were found.

TABLE I. OPERATIONS FOR CALCULI IN BOTH PRIMARY AND SECONDARY OPERATIONS.

| | Cases | Deaths | Mortality per cent. |
|--|-------|--------|---------------------|
| 1 In the gallbladder alone..... | 54 | 5 | 9 |
| 2 In the cystic duct alone..... | 8 | 0 | 0 |
| 3 In the gallbladder and cystic duct..... | 15 | 0 | 0 |
| 4 In the common duct alone..... | 1 | 7 | 700 |
| 5 In the gallbladder, cystic and common ducts..... | 4 | 0 | 0 |
| 6 In the gallbladder and common duct.. | 6 | 0 | 0 |
| 7 In the cystic and common ducts..... | 1 | 0 | 0 |
| 8 In the cystic, common, and hepatic ducts | 2 | 1 | 50 |
| Total..... | 104 | 13 | |

TABLE II. COINCIDENT PROCEDURES.

1. Conservative operations:
cholecystomies, cholecystostomies, cystostomies, fifty-five; of these four died, or 7.20 per cent.
2. Cholecystectomies alone, without other procedures, twenty-six; of these two died, or 7.6 per cent.
3. Cholecystotomies:
A. Alone: a. With drainage of the ducts, eight; of these three died. b. Without drainage of the ducts, six; of these two died.
B. Combined operations: a. With drainage, five; of these one died; b. Without drainage, four; of these one died.
Total, 23; of these seven died, or 30.4 per cent.

In interpreting this table correctly in conjunction with Table I, it must be borne in mind that not in every case of calculus in the common duct was a choledochotomy performed, there being five such cases, namely, ideal cholecystostomy once, cholecystostomy three times, and cysticostomy once. A choledochotomy in addition was performed in one case where there was a stone in the gallbladder alone. This is clearly seen by reference to Table III.

Combined operations (see Table II and Table III) on the biliary passages.

1. Cholecystectomy, with choledochotomy:
a. Without suture of ducts..... 2, no deaths.
b. With suture of ducts..... 2, one death.
2. Ideal cholecystostomy, with ideal choledochotomy..... 2, no deaths.
3. Cholecystostomy, cysticotomy, and choledochotomy..... 1, no deaths.
4. Choledochotomy, with cholecystenterostomy..... 1, no deaths.
5. Cholecystectomy, choledochotomy, hepaticotomy..... 1, one death.

Coincident complicating operations:

| | | | |
|-------------------|---|----------------------------|---|
| Ovariectomy | 1 | Pericystic abscesses | 6 |
| Splenectomy | 1 | Appendectomy | 6 |
| Nephrectomy | 1 | | |

JAUNDICE. (See Table III.) This has been a very significant symptom in this series of cases. We have data in ninety-six of the patients as to the presence or absence of jaundice. It was present in fifty-seven, or fifty-nine per cent., while it was absent in thirty-nine. There were seventy who had calculi in the gallbladder and cystic duct, and of these thirty-three, or forty-seven per cent., had jaundice, while thirty-seven had not had it. Of the fifty-three patients with stones in the gallbladder alone, twenty-four, or forty-three per cent., had had icterus. There were twenty-seven patients who had calculi in the common duct, with or without calculi in the other ducts, and of these all but two had had jaundice, or ninety-two per cent. Three patients died from post-

TABLE III.

| Location of Calculi | Jaundice | | Liver | | Gall-bladder | | Operative procedures with number of cases in each. | Number of Cases | Recovered | Died |
|--|----------|---------|-----------|---------------|--------------|-------|---|-----------------|-----------|------|
| | Pres-ent | Ab-sent | En-larged | Not en-larged | En-larged | Small | | | | |
| In the gallbladder alone | 24 | 29 | 19 | 14 | 39 | 11 | Cholecystostomy | 38 | 35 | 3 |
| | | | | | | | Ideal cholecystostomy | 1 | 1 | .. |
| | | | | | | | Cholecystectomy (partial and complete) | 14 | 12 | 2 |
| | | | | | | | Choledochotomy, with suture | 1 | 1 | .. |
| | | | | | | | | 54 | 49 | 5 |
| In the cystic duct alone | 2 | 1 | 1 | 1 | 5 | 1 | Cholecystostomy | 3 | 3 | .. |
| | | | | | | | Cholecystectomy | 5 | 5 | .. |
| | | | | | | | | 8 | 8 | 0 |
| In common duct alone | 12 | 1 | 3 | 1 | 4 | 8 | Ideal cholecystostomy | 1 | .. | 1 |
| | | | | | | | Cholecystostomy | 2 | 2 | .. |
| | | | | | | | Choledochotomy, with suture | 5 | 2 | 3 |
| | | | | | | | Choledochotomy, with drainage | 4 | 2 | 2 |
| | | | | | | | Cholecystectomy, with cholecystenterostomy | 1 | 1 | .. |
| | | | | | | | Cholecystectomy, with choledochotomy with suture | 1 | .. | 1 |
| | | | | | | | | 14 | 7 | 7 |
| In gallbladder and cystic duct ... | 7 | 7 | 4 | 7 | 12 | 3 | Cholecystostomy | 8 | 8 | .. |
| | | | | | | | Cholecystectomy | 7 | 7 | .. |
| | | | | | | | | 15 | 15 | 0 |
| In gallbladder and common duct | 6 | 0 | 3 | 1 | 1 | 5 | Choledochotomy, with suture | 1 | 1 | .. |
| | | | | | | | Choledochotomy, with drainage | 2 | 2 | .. |
| | | | | | | | Ideal cholecystostomy, with ideal choledochotomy | 1 | 1 | .. |
| | | | | | | | Cholecystectomy, with choledochotomy with suture | 1 | 1 | .. |
| | | | | | | | Cholecystectomy, with choledochotomy with drainage | 1 | 1 | .. |
| | | | | | | | | 6 | 6 | 0 |
| In gallbladder, cystic and com-
mon ducts | 3 | 1 | 2 | 1 | 2 | 2 | Cholecystostomy | 1 | 1 | .. |
| | | | | | | | Ideal cholecystostomy, with ideal choledochotomy | 1 | 1 | .. |
| | | | | | | | Cholecystectomy and choledochotomy (drainage) | 1 | 1 | .. |
| | | | | | | | Cholecystostomy, cysticotomy, with choledochotripsy | 1 | 1 | .. |
| | | | | | | | | 4 | 4 | 0 |
| Cystic and common ducts | 1 | .. | 1 | .. | .. | 1 | Cysticostomy | 1 | 1 | .. |
| Cystic, common, and hepatic ducts | 2 | .. | 2 | .. | .. | 1 | Cholecystectomy, choledochotomy, hepaticotomy | 1 | 1 | 1 |
| | | | | | | | Choledochotomy | 1 | 1 | .. |
| | 57 | 39 | 35 | 25 | 63 | 32 | | 104 | 91 | 13 |

operative hæmorrhages induced by the deep jaundice which was present at the time of the operations.

PASSAGE OF CALCULI PRIOR TO THE OPERATIONS.—In only four of the patients was a history prior to the operation of the passage of stones in the stools given. In all of these numerous stones were noted.

Results of Cultures Taken at the Operations.—The results of twenty-seven different cases are as follows: They illustrate the great diversity of the various organisms which may be present. The variety of the germ seems to have no relation to the outcome of any individual case. Far more does it depend on the number of the microorganisms and their virulence, together with the extent of the area infected, gallducts, liver, and surrounding regions. The various organisms and their combinations, with the number of cases in each, are as follows:

Streptococci alone, 2 cases with 2 recoveries.
Colon bacilli alone, 9 recoveries, 1 death.
No growth, 8 cases, all recovered.
Staphylococcus pyogenes aureus with streptococci, 1 case, with recovery.
Large nonpathogenic bacilli, 2 cases, all recovered.
Staphylococcus pyogen. albus, with bac. coli commun., 1 case, with recovery.
Staphylococcus pyogenes aureus, pure growth, 1 case, with recovery.
Bacillus pyocyaneus, bacillus coli commun., staphylococcus pyogenes aureus, with streptococci pyogenes, 1 case, with recovery.
Staphylococcus pyogenes aureus, with colon bacilli, 1 case, with recovery.

Sex.—Of the 99 primary operations for biliary calculi, 80 were in women and 19 in men.

Age.—The youngest patient operated upon was twenty-two, and the oldest seventy-three years of age.

Between 20 and 25 years there were 4 cases.
Between 25 and 30 years there were 7 cases.
Between 30 and 40 years there were 35 cases.
Between 40 and 50 years there were 20 cases.
Between 50 and 60 years there were 22 cases.
Between 60 and 70 years there were 6 cases.
Between 70 and 75 years there was 1 case.

THE QUESTION OF THE SITUATION OF THE CALCULI AS AFFECTING THE MORTALITY.—By consulting Table I, we find that there were seventy-seven cases of calculi in the gallbladder and cystic duct without calculi in the deeper ducts, of whom five died, giving a death rate of 6.5 per cent. This brings up the very pertinent question of whether we should not advise an operation early, before the calculi have wandered into the deeper ducts. The internist will object, however, that we do not then give sufficient time for the stones to be passed by natural forces, which successfully occurs in many cases, or for them to become latent. To the former the surgeon replies that there are probably just as many cases where the calculi remain impacted in the deeper ducts as there are cases where the calculi pass into the duodenum. As for the latent cases, we have here the appendix question over again; the chances are that the latent period will not be permanent, and that there will be other attacks of infection, etc., and it is much better to forestall these attacks than to wait until the inflammations have produced such severe lesions as to change a simple, uncomplicated operation into a dangerous and difficult one, with its increased mortality.

There were twenty-seven cases with calculi in the common duct alone, or in the common duct and other ducts. Of these eight died as a result of the operation, giving a mortality of 29.6 per cent.—a

startling contrast to the 6.5 per cent. mortality in the cases with calculi in the gallbladder and cystic duct.

THE QUESTION OF DRAINAGE AS AFFECTING THE MORTALITY.—One is struck at first glance, in considering item No. 4 in Table I, with the fact that seven out of fourteen patients died after operations in which calculi were situated in the common duct, and the other ducts free of calculi. This is in startling contrast with the one death in the thirteen operations where calculi were found not only in the common duct, but coincidentally in the other ducts as well (see 5, 6, 7, and 8, Table I). In seeking a reason for this difference, one can hardly say that in the latter series the pathological process could have been less severe than in the cases where the common duct alone was occupied by calculi, the remaining ducts being free. We should therefore consider whether there may not have been some difference in the operative procedures themselves which would explain why the mortality was so much greater in the one series than in the other. Let us, then, examine into the number of cases in each series which was drained and not drained, the term drainage here meaning whether the openings in the ducts were tightly sutured or whether they were left open.

Series I. Patients with calculi occupying the common duct alone:

| | |
|-------------------|--------------------------------------|
| Drained | 7; of these 2 died, or 28 per cent. |
| Not drained | 7; of these 5 died, or 71 per cent. |
| Total | 14; of these 7 died, or 50 per cent. |

Series II. Patients with calculi not only in the common duct but also in other ducts at the same time:

| | |
|-------------------|---------------------------------------|
| Drained | 9; of these 1 died, or 11 per cent. |
| Not drained | 4; of these 0 died. |
| Total | 13; of these 1 died, or 7.6 per cent. |

Series III. Combining both series, we find:

| | |
|-------------------|---|
| Drained | 16; of these 3 died, or 18 per cent. mortality. |
| Not drained | 11; of these 5 died, or 45 per cent. mortality. |
| Total | 27; of these 8 died, or 29 per cent. mortality. |

By referring to these tables, how may we explain the fifty per cent. mortality (Series I) in the cases where the common duct alone was occupied by calculi, in comparison with the 7.6 per cent. mortality (Series II), in the cases where the common duct and also the other ducts simultaneously contained calculi? We may assume that where several of the ducts were occupied by calculi there were severer symptoms present than in the cases where the common duct alone contained stones; hence, many of the patients may have sought operative relief in the former case earlier than in the latter, consequently there may not have been such serious lesions present, rendering the operations less dangerous. This, however, does not seem to be an adequate explanation. More important than this, in affecting the mortality, is the fact that where several of the ducts were occupied by stones there were fewer attempts made to suture the multiple openings in the ducts, consequently there was better drainage, both because of less suturing and also because there were multiple openings in the ducts. Even in cases of Series II where suturing was attempted there was greater chance of the suture lines, being multiple, breaking open subsequently than in Series I, where calculi were removed from the common duct alone, with its single opening, in which the temptation to suture the single open-

ing was greater, with the consequent less liability to break open, hence poorer drainage. In this way we may explain the lack of mortality in the four undrained cases in Series II. Several of these patients had a biliary discharge shortly after the operations—an evidence of the fact that the multiple suture lines had not held, and thus drainage was afforded.

By combining all the common duct cases, taking Series I and II together, we obtain figures as given in Series III. This also further illustrates the advantage of not suturing the ducts, for we find that the mortality in the drained, or unsutured, cases was only two fifths that which obtained in the undrained, or sutured, cases.

Whether the case be drained or undrained, however, the mortality in the patients with stones in the deep ducts is appalling, and calls for some explanation. Many of the patients were operated upon at a time when gallbladder surgery was in its infancy, and when the operations were undertaken as a matter of last resort, as a consequence of which many of the patients were in a deplorable physical condition, rendering at best the outcome very dubious. Our mortality in this class of cases, i. e., calculi in the common duct, at the present time is very much less than these figures show, due to better technique and to earlier operations. As an operative principle, it would seem wisest to institute drainage in every case of common duct calculus, and to attempt no complete closures by suturing the openings in the common duct. By this drainage is meant the insertion into the duct of a rubber tube, preferably carried into the hepatic duct, and held there by a catgut suture. Without the tube the opening into the duct becomes easily blocked. Earlier operations on these patients, before the calculi have gotten into the deeper ducts, or, when already there, before the patients have become exhausted by the attendant sepsis of the biliary passages and liver, will give a very small mortality in the future. With this early operation must be combined thorough drainage of the biliary passages.

RESULTS OF THE OPERATIONS.—The after results of these operations, the ascertainment of what prospect we have of permanently curing our patients afflicted with gallstones, is of the greatest interest, and ought to be carefully and honestly carried out. Failures and mistakes should be openly acknowledged and pointed out for future guidance.

Of the eighty-six survivors of the ninety-nine patients primarily operated upon, it has been possible to follow sixty-nine and to ascertain the ultimate results so far as a cure is concerned.

Forty-five were cured of symptoms referable to the calculi, or sixty-five per cent. of the sixty-nine, whose after histories are known.

Seven were improved, or ten per cent.

Sixteen were not improved, or twenty-three per cent.

Twelve required secondary operations, or twelve per cent. of the total ninety-nine, operated upon.

One probable recurrence of calculi, or one per cent.

Six developed subsequent herniæ, or nine per cent. of the sixty-nine patients traced.

Seven patients, or ten per cent. of the sixty-nine operations, had calculi overlooked at the first operation.

Postoperative lung complications occurred in four, or four per cent. Left saphenous phlebitis occurred in one.

SECONDARY OPERATIONS.

Before considering in detail the ultimate results, it will be necessary to study those patients who required secondary operations to relieve them of their symptoms.

Summing up the causes for these twelve secondary operations, we find that persisting biliary fistula occurred in seven patients, and was the most frequent difficulty requiring relief by secondary operation. The causes for the persistence of the fistula were found at the secondary operations to be:

1. Two cases in whom calculi were found in the cystic duct, undoubtedly overlooked at the primary operation.

2. Two cases in whom calculi were removed from the gallbladder, overlooked at the time of the original operation.

3. One patient from whose common duct a calculus was removed at the second operation which had probably been there at the time of the first operation.

4. Two cases of probable stricture of the biliary passages, without the presence of calculi at the second operation.

In addition to these cases of persisting fistulae, there were five other patients who required secondary operations for the following reasons:

5. Cholangitis, without calculi, resulting from an empyema of the gallbladder upon which a cholecystostomy had primarily been performed for calculi, Case II.

6. Empyema of a dilated stump of the cystic duct, following cholecystectomy for calculi, Case X.

7. Stricture of the cystic duct, Case XI, resulting in empyema without calculi.

8. For probable recurrence of calculi in the gallbladder (Case XII).

9. For probable stricture somewhere in the biliary tract without calculi, Case VIII.

The lessons to be learned from these secondary operations are:

1. More thorough search for calculi at the primary operation, splitting the ducts wide open, if necessary. These statistics show that in ninety-nine primary operations calculi were left behind in seven of the sixty-nine patients whose subsequent histories are known, or ten per cent.

2. Provided that it were possible of performance, a primary cholecystectomy would have avoided the necessity for a secondary operation in all but three patients.

3. In only one of these patients (Case X) had a primary cholecystectomy been performed. This speaks very strongly for the removal at the first operation of the gallbladder, since it seems to give the greatest guarantee against future difficulties, hence greater certainty of cure.

The lengths of time which had elapsed between the primary and secondary operations are as follows:

3 months in 3 patients.
7 months in 3 patients.
12 months in 2 patients.
15 months in 1 patient.
17 months in 1 patient.
19 months in 1 patient.

3 years and 8 months in 1 patient (counted as a true recurrence of calculi).

Excluding the last case, the average length of time between the primary and secondary operations was eleven months.

Ultimate results of these secondary operations are as follows:

Two died as an immediate result of the secondary operation, or sixteen per cent.

Three developed subsequent herniæ, or twenty-five per cent. of the twelve secondary operations.

Two patients were not cured of their fistulae, which persisted.

One patient developed a persistent fæcal fistula as a result of the secondary operation.

Nine of the ten patients who survived the secondary operations were cured permanently of their biliary colics.

One patient had a recurrence of biliary calculi three years and eight months after the primary operation.

One patient subsequently developed attacks which seem to be due to occasional kinking of the pylorus from adhesions.

One patient has typical symptoms due to a general enteroptosis.

One patient has persistent colitis and some stomach symptoms.

The histories of these twelve secondary operations are as follows:

CASE I.—Mrs. A. N.; aged fifty-two years. First operation, September 24, 1904. Four years previous had had biliary colic, with chills, fever. Fifteen such attacks since. Never jaundiced. Empyema of gallbladder at operation, which was the size of an orange surrounded by adhesions, containing four ounces of greenish yellow pus and ten calculi. Cholecystostomy. Leucocytes before operation, 22,600. Postoperative pneumonia. Recovery. Persistent biliary fistula after the operation, which would close only to reopen after some period of pain and signs of inflammation in the wound. Secondary operation seven months after the primary operation. Cholecystectomy. One calculus found in the cystic duct. Ligature of the cystic duct. No subsequent discharge of bile. Cure of all the symptoms, save slight gastric discomfort. A primary removal of the gallbladder would have obviated the necessity for a second operation.

CASE II.—S. M.; male; aged twenty-seven years. Alcoholic. Operation, September 21, 1904. Five days prior to admission, biliary colic, which was severe. Pain and prostration constant since, with fever, and no jaundice. Diagnosis on admission empyema of the gallbladder, which was found distended and thickened, and contained many calculi. Mayo's operation performed, the mucous membrane of the gallbladder being removed intact by the scissors. Cholecystostomy. Discharged on the fifteenth day, there having been no discharge of bile from the wound after the seventh day. Patient was admitted again two months after the first operation, saying that there had been more or less discomfort in the wound since the operation. Four days previously there had been severe colic in the wound, which lasted all night, followed by several attacks since, with no jaundice. Vomited some, and much prostrated. Temperature, 104.5°; pulse, 120. Leucocytes, 16,300. The wound was red, swollen, and tender. Incision made in the old wound, and a large amount of bile escaped. Temperature rapidly subsided, and the patient went home on the eighth day with a biliary fistula, which healed up in about two weeks. One month later, patient was admitted to Mt. Sinai Hospital, saying that for the past ten days had pain over the wound, with jaundice, fever, nausea, and vomiting. The liver was enlarged and tender, and there seemed to be a mass adherent to the scar. At operation, the

gallbladder was found contracted, thickened. Its mucous membrane had regenerated and was gangrenous in patches. There were mucus and pus in its cavity, but no gallstones or bile. The cystic duct was completely stenosed. Cholangitis was present. Cholecystectomy and choledochotomy with hepatic drainage. No calculi found. Very difficult operation because of the adhesions. Temperature rose to 106°, and the patient died thirty hours after the operation. In this patient we see that the mucous membrane, even after complete removal, had regenerated and was gangrenous. Primary cholecystectomy would probably have avoided the secondary infection of the biliary tract and liver.

CASE III.—H. W.; male; aged thirty-three years. Five years prior to admission, in June, 1904, an attack of severe epigastric colic, but not as bad as the present one. Fairly well then until three months ago, when he had some indigestion, followed two months ago by another slight colic. Two days ago worst attack of all. Never jaundiced. Very sick on admission. Temperature, 101°; pulse, 112. Gallbladder found enlarged, full of pus, containing one calculus. Mucous membrane curetted. Cholecystostomy. The biliary fistula persisted in spite of all attempts to close it, so in three months a second operation was undertaken to close the fistula. The gallbladder was found deeply embedded in adhesions. No calculus or obstruction was found in the biliary passages. A probe easily passed through an opening made in the common duct, and in this opening a tube was sutured. A ligature was passed about the cystic duct to take the place of the removal of the gallbladder, which was deemed hazardous. Subsequent to the operation there was a profuse discharge of bile from the new wound, and a mucous one from the old sinus. In August, 1905, one year after the second operation, the patient is cured of all pain. The wound made by the second operation closed promptly after leaving the hospital, but the primary wound has continued to secrete a few drops of mucus each day, which, however, causes him no inconvenience. There is no hernia present in either wound. A primary cholecystectomy would likewise have cured this patient of any secondary difficulties.

CASE IV.—Mrs. M. L.; aged forty-two years. For the past four years has had attacks of typical biliary colics, the pain radiating into the right shoulder, with more or less jaundice of varying intensity. Lately has pain every day, often with chills, fever, and sweating. Operation, June 7, 1904. Riedel's lobe found present, and an hourglass constriction in the centre of the gallbladder, dividing it into two separate compartments. Many calculi in the gallbladder, cystic and common ducts, 20 in all. Incision into the cystic duct, with removal of the cystic duct stone, and through this incision one stone in the common duct was milked up. One calculus in the common duct could not be moved, so this was crushed before milking it up through the opening in the cystic duct. Cholecystostomy. Persistent fistula after the operation, which refused to close, so three months later a second operation was undertaken. Two calculi were found in the common duct. These were removed through an opening in the common duct. To remove the stones the duodenum had to be rotated to the left, and the duct held forward with the fingers. One calculus was embedded at the papilla of Vater. Result in September, 1905, one year after the second operation, shows a perfect cure in every way. Bile ceased to flow twenty-one days after the second operation, and the wound speedily closed, and has remained closed and is not tender. There is no hernia present. Digestion is perfect, and there are no symptoms of any kind present. This patient represents one in whom calculi had been left behind at the first operation, or else fragments were left from which

larger stones subsequently developed. Cholecystectomy likewise, if it had been possible, would have been a more ideal procedure.

CASE V.—Mrs. M. T.; aged sixty years. Admitted May, 1904. For the past ten years had had attacks of right sided abdominal pains. Never jaundiced. At times very severe colics, the pain radiating into the right shoulder. Lately has had these pains every few weeks. One year ago operation in the Albany Hospital by an incision over the appendix. One calculus was removed from the gallbladder, and a cholecystostomy performed. Has had a persistent biliary fistula since, with frequent attacks of pain. At the second operation the gallbladder was found buried in dense adhesions, and its walls very thick. It contained one calculus. Cholecystectomy. Biliary discharge from the wound for six days after the operation, after which the wound quickly healed. Result in September, 1905, sixteen months after the second operation, shows relief from the severe attacks of pain, but she has a dull ache in the wounds, worse in wet weather. She cannot walk any distance, or climb many stairs, on account of back-aches. She has flashes of heat and cold, flatulence, nausea, but no vomiting. Appetite fair. Constipated. Examination shows a very thin, emaciated woman, with very lax abdominal walls. Prolapse of all the abdominal viscera, particularly of the liver, which must in consequence pull on the adhesions in the gallbladder region resulting from the operation. Small hernia through the lower operative wound made at the first operation. Patient considers that she has received little benefit from the operation. Close consideration, however, reveals the fact that her symptoms are entirely due to the general enteroptosis. She was ordered a made to order general enteroptosis belt, with a small pad to hold back the hernia at the appendix incision. This relieved her symptoms almost at once, so that we may expect a cure shortly.

CASE VI.—Miss M. F.; aged forty-three years. Admitted February 26, 1903. For twenty years, more or less dyspepsia. For eight years pain in the pit of the stomach at irregular intervals, relieved by vomiting. For past three months pain is worse, and of a colicky character. Three years ago began to be jaundiced, and has been present off and on ever since, with varying intervals and intensity. The gallbladder was found enlarged and thick at the operation, and a culture of the contents gave bacilli coli communes. No calculi found in the gallbladder, but one in the common duct was pushed up through the cystic duct and out through the opening in the gallbladder. Mucous membrane of the gallbladder curetted. Biliary fistula persisted, and in seven months after the first operation she was operated upon a second time. No calculus found anywhere. Murphy button inserted between the gallbladder and the jejunum. No biliary discharge from the wound after the operation. Button was passed on the eleventh day. The result now, two years after the last operation, is a perfect cure in every way, save for an occasional stomach upset of no great inconvenience. No hernia.

It would seem as though the common duct stone at the first operation should have been removed through an incision in the common duct, instead of being pushed up through the cystic duct, with the consequent trauma. A tube then in the common duct for drainage would probably have avoided any subsequent stricture, which was probably the cause of the persistent fistula.

CASE VII.—Mrs. K. B.; aged thirty-three years. In October, 1902, was on the Medical Division of this hospital with typhoid fever. On the thirtieth day of the disease had a sudden attack of pain over the gallbladder, which became enlarged and tender. Leucocytes, 13,300. Operation disclosed a much enlarged

gallbladder containing forty small calculi. Culture gave bacillus coli communis. Cholecystostomy. Discharged in January, 1903, with wound closed. Three weeks afterward an abscess formed in the scar, which broke open, emitting a discharge of bile and serum. This healed up for several weeks and then broke down again in the same way, and there has been a persistent discharge since. Operation in June, 1903. Calculus was found in the cystic duct. Cholecystectomy. Wound healed almost at once. Result in October, 1905, twenty-seven months after the second operation, is a perfect cure in every way. Has no pain in the wound, neither is there a hernia present. This is a case in which a calculus was overlooked at the primary operation, and was not removed.

CASE VIII.—P. J. H.; male; aged thirty-three years. Admitted March, 1902. Two months ago biliary colic, with chills, fever, jaundice, and tenderness over the gallbladder. Two similar attacks since the last one, being two days ago. Leucocytes, 12,600. Operation, April 2, 1902. The gallbladder was found to be small, and to contain thirty-seven calculi, and there was also one in the cystic duct. The latter was pushed up into the gallbladder and a cholecystostomy performed. Patient was readmitted in May, 1903, one year after the operation, with the history that he was well until two months ago, when he began to have colicky pains in the wound for one week, which improved. One month ago he had a second similar attack, and several since of pain, jaundice, tenderness, chills, fever. At the operation, an abscess about the gallbladder and beneath the skin was opened. The cavity of the gallbladder was small and its walls were shrunken. No calculi found. An attempt was made to remove the gallbladder, but it had to be abandoned. Result in October, 1905, is a cure, so far as any pain is concerned, but there are a few drops of discharge each day from the wound, which, however, does not annoy him at all. He works perfectly well, and feels so. There is no hernia present.

CASE IX.—J. M.; male; aged forty-nine years. Admitted September, 1901. For the past three weeks has had pain over the gallbladder; chills, fever, sweating, diarrhoea, no jaundice. Delirious for the past five days. Leucocytes, 40,000; temperature, 103.5°; pulse, 108. The liver was enlarged and tender, and the gallbladder seemed to be enormously distended. Patient very sick. At the operation the very large gallbladder was adherent to the abdominal wall, and was directly opened without penetrating the peritoneal cavity. It was full of foul pus. A stone as large as a small lemon was removed from the gallbladder. A biliary fistula persisted until March 31, 1903, nineteen months after the first operation, when a cholecystectomy was performed, a mass of calculi being found in the neck of the gallbladder. The fistula healed in seven weeks after the second operation, and has remained healed and nonsensitive since. He is cured of all symptoms. There is a small hernia in the scar, which causes him no pain nor discomfort. In this patient no other operative procedure could have been primarily performed, in view of the severe sepsis and the distended, adherent gallbladder, without danger to the life of the patient, and the second operation was therefore unavoidable.

CASE X.—Mrs. E. W.; aged twenty-seven years. This patient is the only one who died after a secondary operation. For details, see Case XI, under causes of death. This patient had had a primary cholecystectomy, but the amputation had left in a part of the cystic duct, which subsequently dilated and became infected, and there was a localized abscess about the cystic duct. The patient died of uræmia.

CASE XI.—Mrs. R. B.; aged fifty years. For twenty years has had attacks of pain in the epigastrium at irregular intervals. These attacks for the past two weeks have recurred every day. Vomits in the attack.

Never jaundiced. Operation, October 23, 1900; gallbladder and cystic duct contained twenty calculi. Cholecystostomy. Readmitted in February, 1901, fourteen weeks after the first operation, saying that she had had a constant jumping pain in the wound since the operation. No chills, fever, nor jaundice. Complete stricture found at the junction of the cystic and hepatic ducts. Cholecystectomy and removal of the cystic duct. There was no biliary discharge from the wound at any time after the operation. Result: Perfectly well for two years after the second operation, when she began to have attacks, at infrequent intervals, of pain in the stomach, with vomiting of a great deal of bilious material, which relieved the pain. For the past few months more frequent attacks. Stomach becomes enormously distended with gas and there is great pain. Relief follows the act of vomiting. Kinking of the pylorus by adhesions. Feels well between the attacks.

CASE XII.—Mrs. E. T.; aged fifty-six years. In July, 1895, right nephrorrhaphy in another institution. No improvement in symptoms, so right nephrectomy on account of right sided colicky pains, in January, 1896. The kidney, removed, showed chronic parenchymatous nephritis. Pain in the right side was not improved, so in March, 1896, appendectomy and cholecystostomy. Patient had never been jaundiced, but she had had a great deal of stomach trouble. The gallbladder was found shrunken and atrophied, and contained four stones. The patient was readmitted in November, 1899, three years and eight months after the last operation, saying that she had been perfectly well until three months ago, when she began to have severe attacks of colic in the right epigastrium. Had vomited a number of times, and had been frequently jaundiced. Operation. Gallbladder found shrunken, and buried in adhesions. Colon opened in separating the adhesions. Suture of the rent. Numerous calculi found in the gallbladder. Cholecystostomy. After the operation a faecal fistula developed in the wound, with which she left the hospital. She also developed a pneumonia and a right pleurisy, with effusion, for which she was tapped three times. Patient was in the hospital two hundred and six days after the last operation. Result, six years after the operation: Has never had any pain in the region of the gallbladder since the operation. Stomach acts well. Has a rupture the size of an egg in the scar. Not tender, and causes her no difficulties. In centre of the wound is a pinhole opening, through which a slight amount of faecal material escapes every now and then, and has done so ever since the last operation. Is not sufficient to be very annoying. The question is, with this patient, whether there was not a true recurrence of calculi, rather than an overlooking of them at the first operation. She was perfectly well for three years and eight months after the first operation, when she developed severe symptoms of calculi, which were found to be very numerous at the second operation.

CAUSES OF DEATH.

The patients who died, with the causes so far as known, are as follows:

CASE I.—Mrs. C. S.; aged fifty-two years. Operation in April, 1895. In 1885 had her first epigastric colic, which was repeated several times in the next five years. In 1890 had a four weeks' attack of obstructive jaundice, with severe colics, vomiting, fever, etc. She then was free from symptoms, except for mild epigastric pains, for three years. In 1893 another attack of obstructive jaundice, when she passed in the stools over one hundred gallstones. Present attack began one month ago, with colic and deep jaundice, etc. At operation, the gallbladder was found to contain several calculi, deeply buried in by adherent stomach and colon, shrunken and buried in the liver. Cholecystectomy. Cystic duct ligated. Died on the second day. Autopsy revealed a perforation in the colon.

CASE II.—Mrs. M. J.; aged thirty-five years. Oper-

ation, December 31, 1895. One year ago attack with jaundice similar to the present one. Ten days ago severe colic, lasting for seven hours, followed by jaundice. Admitted seven days ago. Temperature, 103° . Deeply jaundiced. Nephritis. Steadily grew worse, hence operation seven days after her admission. Gallbladder normal. Common duct size of the thumb. Head of pancreas large, hard. Common duct incised and two stones removed, and a third pushed into the duodenum. Drainage to the incision. On the third day she became very delirious, and died of cholæmia and nephritis.

CASE III.—D. H.; male; aged thirty-two years. Has had attacks of pain in the pit of the stomach for years. For the past two years the interval between attacks has averaged about a month, and often followed by jaundice. One year ago was sick in bed for six months with repeated attacks of pain and jaundice, chills, fever, sweating. Present attack began the day before admission, January 20, 1904. Patient then jaundiced; temperature, 103° ; with a very tender liver. Gallbladder buried in adhesions. Incisions into the cystic, hepatic, and common ducts, from all of which calculi were removed. Calculi in gallbladder removed. Drainage. Very delirious after the operation. Died on the third day, of pylephlebitis. Leucocytes before the operation, 10,000.

The three following patients died of peritonitis:

CASE IV.—Mrs. L. G.; aged fifty-five years. Admitted May, 1903. Two years ago had an attack of colic, with vomiting, diarrhœa, which latter lasted for two weeks, chills fever, etc. Four similar attacks since. Last attack two weeks ago, followed by jaundice. Leucocytes, 9,000. Operation. Gallbladder much thickened, containing many calculi. Cholecystectomy. Died on the second day of peritonitis.

CASE V.—Mrs. A. E.; aged fifty years. During the past ten years several attacks of indefinite biliary colic. Has been in bed for the last four weeks on account of pain in the gallbladder region; chills, fever, and sweating. Never jaundiced. On admission, temperature 103° . Leucocytes, 30,000. Operation, March 16, 1902. Gallbladder thick, enlarged, contained four calculi. Cholecystostomy. Mucous membrane curetted. Bowels moved well on the third and fourth days after the operation, but patient continued to vomit, and the pulse gradually weakened. Died on seventh day, probably of peritonitis.

CASE VI.—Mrs. M. C.; aged sixty-six years. Admitted March, 1902. Severe colic, with jaundice, two years ago; then similar attacks once a month ever since, until three months ago, when she had them several times a week. Never any chills nor fever. Gallbladder found distended, containing four calculi. Cholecystectomy. Died on the sixth day, the bowels not being able to be moved, supposedly by peritonitis.

The three following patients died of postoperative hæmorrhage, all being jaundiced at the time of the operation:

CASE VII.—Mrs. B. C.; aged fifty-five years. Nine weeks ago first noticed jaundice, without any pain. Two weeks ago gallbladder region became sore and tender. Four days ago severe colic at night, the pain running into the right shoulder. Several attacks since. Admitted in June, 1903. At operation, a patch on the gallbladder, size of a quarter of a dollar, found gangrenous, containing many calculi, and a constriction in its centre. Patient was jaundiced, and this provoked continuous oozing, which could not be controlled. Cholecystostomy. After the operation the patient continued to bleed from the wound, and she died in three hours. At autopsy was found chronic pancreatitis sur-

rounding the common duct, which was full of impacted stones. Much free blood in the abdomen.

CASE VIII.—Mrs. A. W.; aged thirty-five years. Six weeks ago typical attack of biliary colic. Three weeks ago a second severer attack, with jaundice, which has become much deeper since. Has had local pain ever since. Admitted June, 1901. Under observation for eighteen days, during which time she became progressively worse. At operation, gallbladder found atrophied, containing no calculi, but one in the common duct was expressed up through an opening in the gallbladder, which opening was subsequently sutured tight. The patient died on the fourth day, from hæmorrhage into the abdomen.

CASE IX.—Mrs. A. J.; aged thirty-seven years. For fifteen years has had attacks of epigastric pains. Present attack has lasted for four months, with tenderness over the liver, colics every ten days, with chills, fever, vomiting, clay colored diarrhœal movements, and jaundice of varying intensities. Admitted November, 1900. Patient was watched twenty-four days, in the hope that the acute symptoms would subside, but the pain, temperature, and jaundice progressively increased, so that operation was deemed urgently necessary. The gallbladder was found shrunken and empty. Thirty-six stones were found in the common duct. Choledochotomy, with suture of the opening. Despite all measures to stop the bleeding, oozing continued from the wound, and the patient died on the third day after operation. The patient was deeply jaundiced before the operation, and the leucocytes were 10,400.

The following patient died of shock:

CASE X.—C. S.; male; aged fifty-one years. Admitted in February, 1903. Sudden attack of jaundice, followed in a few days by pain, dull, aching, in the epigastrium, and a great deal of "indigestion." Pain more or less since, with a number of attacks of typical biliary colics. Jaundice has been present to some extent all the time, but it was much worse after the colics. Operation disclosed the gallbladder empty, shrunken, and adherent to the duodenum and stomach. Gallbladder removed and the cystic duct split down into the common duct, from which a large calculus was removed. Complete closure of the cystic stump and the incision into the common duct. Leucocytes before the operation, 10,200. Died on the second day of shock.

CASE XI.—Mrs. E. W.; aged twenty-seven years. Admitted on June 1, 1901. Sick four days with severe biliary colic, followed by continuous pains and tenderness over the gallbladder, and rigidity. Some vomiting. No jaundice. Leucocytes, 15,500. During the year prior to the operation she had had pneumonia, pleurisy, typhoid, and malaria. Operation disclosed a distended gallbladder, containing twelve stones and pus, culture from which gave the colon bacillus. Cholecystectomy. Never any biliary discharge from the wound after the operation. Went home on the twenty-sixth day. Was then well for three months, when she had colicky pains in the scar similar to those she had had before the operation. Readmitted. Under cocaine anæsthesia, opening made in the scar, emitting pus and bile. Wound entirely healed in three weeks. Readmitted three months later. Since the last operation has had transitory attacks of jaundice, without pain. For past week, tenderness in the scar and colicky pains. Deeply jaundiced for two days. Pregnant four months. On December 11, 1901, an abscess cavity about the old stump was opened. Died in a week of uræmia. Autopsy. Pregnancy, local peritonitis about stump of the cystic duct, recurrent suppurative colitis, large white kidneys. It was discovered that the gallbladder had been amputated close to its neck, leaving a stump of the cystic duct. This stump had subsequently dilated,

and was filled with pus. Amputation of the cystic duct might possibly have averted the fatal termination.

CASE XII.—P. D.; male; aged sixty years. Six weeks ago biliary colic, with jaundice. Numerous attacks since. Constipated. Clay stools. Operation, January 18, 1898. Gallbladder shrunken and empty. Two calculi in the common duct. Choledochotomy, with suture of the incision. Died on the second day of pneumonia.

CASE XIII.—Mrs. B. B. Admitted May, 1897. At operation a shrunken, empty gallbladder was found. Incision into the common duct and the removal of a large calculus. Suture of the incision. Died on the fifth day of unknown cause.

Summing up the causes of death, we find:

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|---|----------|
| Perforation of the duodenum, with peritonitis..... | 1 case. |
| Cholemia, nephritis..... | 1 case. |
| Pyelophlebitis..... | 1 case. |
| Peritonitis..... | 3 cases. |
| Postoperative hemorrhage, with jaundice present in all..... | 3 cases. |
| Postoperative shock..... | 1 case. |
| Uremia, suppurative recurrent colitis..... | 1 case. |
| Pneumonia..... | 1 case. |
| Unknown..... | 1 case. |

Situation of the calculi in the patients who died with the operative procedures:

Three cases with calculi in the gallbladder alone—Cholecystectomies.

Two cases with calculi in the gallbladder alone—Cholecystostomies.

One case with calculi in gallbladder, gangrenous, constricted—Cholecystostomy.

Five cases with calculi in common duct alone—Choledochotomies.

One case with calculus in common duct, ideal cholecystotomy.

One case with calculi in cystic, hepatic, common ducts—multiple incisions.

(To be continued.)

DO CENTRAL TRACTS OF THE NERVOUS SYSTEM REGENERATE?*

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As an apology to my colleagues who may think I have taken this subject too seriously, inasmuch as the majority of them give a negative answer to the title of this paper, I desire to state that I was induced to prepare this critical review of the subject for the following reasons: First, because the rather brilliant surgical results attained in the treatment of some palsies of the peripheral type have caused not a few surgeons to believe that similar good results might be obtained in palsies produced by traumatic division or destructive disease in the central nervous system by suture of the divided tracts. Second, at a recent meeting of a national association of surgeons in this city a prominent member of the society stated that in cases of complete transverse severance of the cord suture should be undertaken, as fairly complete regeneration might

be expected. Third, but a few weeks ago one of our influential medical journals gave the subject of suture of the divided spinal cord optimistic consideration among its editorial abstracts. Therefore, it has seemed to me to be a particularly opportune time to bring the subject before you for general discussion.

For a considerable time before the newer conception of peripheral nerve regeneration had furnished arguments against the possibility of regeneration of central tracts in the nervous system, it was generally held, by the majority of investigators in this field, that regeneration of central tracts did not occur. Nevertheless, Voit, in 1868, professed to have obtained regeneration and partial return of function after ablating the cerebral hemispheres of a pigeon. In a series of experiments by Vitzou as late as 1895 we note he concludes that there may be actual new formation of nerve cells in the brain, and that restitution of function in parts once paralyzed by cerebral ablation is due to such regeneration; and in the following year (1896) Tedeschi asserted that he had actually demonstrated this possibility.

Notwithstanding this tempting explanation for the ultimate partial return of power in parts once completely paralyzed, the careful observations of a host of brain anatomists have definitely proved that the return of some degree of function in paralyzed parts must be due to the vicarious assumption of power of nerve centres adjacent to the ablated or destroyed brain tissue. In short, there is no evidence of regenerated nerve cells or tracts in those brain areas which have once been destroyed. However conclusively these data prove that nerve cells and fibres of the central system do not regenerate, there are some who still believe that the experimental and clinical work upon the brain does not apply to nerve cells and fibres of the spinal cord. In support of this contention the work of Massius and Vanlair (1869) is often cited. These investigators held that excised portions of frogs' cords were followed by a return of function. Actual new nerve fibres and cells were demonstrated in the cicatrix. The work of Brown-Séquard (1849-51) has also been frequently cited by regenerationists to show that in the frog's cord at least complete return of function is seen after complete division, and nearly complete return of function is in evidence after cutting the pigeon's cord. Though fully aware of the wide anatomical difference between the rabbit, frog, and guinea pig's cord on the one hand, and the human cord on the other, the regeneration school cites the partial return of function after division of the cord in dogs, as shown by Denton in 1873. Other experimenters in this field who come to even less positive conclusions than Denton in experiments upon dogs are Schmaus-Sacki (1901), Kähler (1884), Stroebe (1894), Baer, Dawson, and Marshall (1899), Dawson and Riggins (1902).

The comparative experimental work upon regeneration of the cord may be easily summarized. Amphibia and reptiles are capable of extensive regeneration of the cord according to the unanimous testimony of observers. It is otherwise

* Read before the New York Neurological Society March 6, 1906.

with warm blooded animals. In most of these there appears to be a marked structural difference between peripheral nerve and spinal nerve fibre. The ganglion cells in the cord of warm blooded animals do not appear capable of regeneration. The only positive reporters to the contrary are Brown-Séquard for pigeons and Eichhorst for pups. While the majority of investigators doubt the power of regeneration of spinal nerve fibre—in the human cord at least—to the point of functional competence, all are agreed that Nature makes an abortive attempt at repair, and that the product remains embryonic and can in no sense be called anatomically or functionally sufficient. It is of considerable interest, however, to study this point more closely. We may therefore quickly review the minute findings in these cases as mirrored in the excellent work of Schmaus-Sacki upon the human cord.

In the carefully stained sections of Schmaus-Sacki thin, delicate, evidently young, yet already medullated fibres are seen. Almost all these fibres are described as nucleated, and are therefore obviously of the peripheral type. For the most part these fibres are scantily distributed at the periphery of the cord. The fibres pass from the posterior roots through the granulation tissue into the anterior roots. The fine fibres which proceed from the white substance of the cord into the cicatrix partake somewhat of the nature of young peripheral nerve fibres. They have a layer of cells like a neurilemma which here and there in some of the illustrations, especially in those sections of Schmaus-Sacki, appear nucleated. It seems probable that these fibres have been produced by the budding or development of new fibres from the invading neurilemma cells at the cord's periphery. The scar tissue of the cord acting as a foreign substance is treated by the invading cells as a bridge over or through which the neurilemma cells strive to penetrate, as is so often noticed in the peripheral system when a foreign tissue intervenes by accident, or, where some substance is used as a bridge between the nerve ends that are widely separated. However true this may be, these unaccounted for fibres are mostly seen growing along the blood-vessels inside the perivascular lymph spaces, which method of proliferation is commonly seen in new nerve fibres of peripheral nerve repair. These fibres are certainly of neuroblastic origin, and therefore could not originate from connective tissue cells as some observers have inferred. Even if one were to admit that these few fibres were derived from the severed ends of the cord tracts themselves, it would be absurd to contend that they are sufficient in size and number to restore the function of the cord. Moreover, these fibres in Schmaus-Sacki's preparations were but a local phenomenon scattered here and there over small areas of the scar tissue in the reunited cord. They failed to entirely penetrate the scar tissue in any given area.

Whether we accept the peripheralist's or centralist's view of nerve regeneration the argument against central tract regeneration is equally convincing. The teaching of the peripheral school, however, gives an excellent explanation for non-

regeneration: The absence of a neurilemma sheath in the spinal cord accounts for nonregeneration in the nerve tracts of the brain and spinal cord. Whether this anatomical fact is due to a different embryological origin for brain and cord tract is a question not definitely settled. The solution of the problem is fraught with more than mere academic interest, inasmuch as the surgical treatment of various forms of paralytic disorders is intimately bound up with it.

Those who have viewed the experimental findings in animals in a more favorable light than I have just set forth seem not to have carefully considered the method of recovery in traumatic hemisection of the cord treated without suture. In 1897 Raymond reported a personal case of traumatic hemisection due to a knife wound in which Brown-Séquard's syndrome was present. The wound was opposite the seventh cervical vertebra. And in 1900 Huguier and Bernard reported a similar case in which the injury was between the third and fourth dorsal. In each case recovery was nearly complete.

A large number of similar cases are to be found in literature; the foregoing are cited in particular, as they are typical cases of hemisection of the cord and its more or less favorable termination without suture. The cause of the progressive amelioration of such cases is not so simple of explanation. It is known, however, that even a few fibres which decussate in the posterior commissure of the cord are not only able to assume the transmission of sensory impressions to the brain, but that the fibres in posterior fasciculi are alone concerned with these sensory transmissions.

As for the recovery from the motor paralysis in hemisection; it is surely not brought about by the regeneration of the motor tracts. Microscopical analysis of these cases shows no new fibre formation; there is simply degeneration of the tracts followed by sclerosis. It is a fact of common knowledge that in cases of extreme damage to the cord or in compression paraplegia the cord may be narrowed to less than one third its normal size, yet microscopical study will prove the presence of a fairly large number of axis cylinders, but with very thin myelin sheaths. Under the slow pressure of tumor growth or of increasing hæmorrhage in hemisection the axis cylinders may not suffer interruption, although the myelin completely disappears. A case often quoted for cord regeneration is that of Vigues. It is probably one of hemisection or incomplete section, and is unhesitatingly classed among hemisections by Raymond. The cases by Peniston and Mergon are clearly hemisections. Morgagni's case is also to be disposed of in the same manner.

Not one of the cases of cord section that have been cited from literature by Stewart and Hart in which regeneration of the severed tracts was supposed to have occurred, is in any way convincing. There is no good reason for thus limiting the number of cases, as many other cases of hemisection are in nowise dissimilar to those selected by Stewart and Hart. For example, Raymond reported, as already mentioned, a great

number of traumatic hemisections which are equally cogent without making any claim for cord regeneration. To illustrate the great difficulty in accurate diagnosis of complete division of the cord the case reported by Mixter and Chase may be cited. This case was thought to be a total transverse destruction at the time of the accident, but later it was found that many fibres in the cord were not destroyed. The correctness of the latter view was shown not only by the marked improvement in symptoms, but also by microscopical study at the post mortem examination one year later when normal nerve fibres were found present in the degenerated area. The fibres which were actually crushed by the injury showed below this point a descending degeneration in the *motor* tracts, and of the short descending sensory collaterals proceeding from the injured *sensory* nerves. There was also present an ascending degeneration of all the injured sensory axones. This case of Mixter and Chase before autopsy findings were added might have easily been posed as a regeneration case in the hands of less conservative observers.

The case reported by Stewart and Harte is worthy of consideration in short abstract, as it is evidently the first one of cord suture following complete division:

The patient was a woman, aged twenty-six, who had been shot with a .32 calibre revolver, the ball passing directly through the spinal canal. A complete severance of the cord at the seventh dorsal level resulted. The operation consisted in the removal of the ball, the fragments of damaged bone, and the lacerated nervous tissue. There was no question of complete division here, as the gap of three quarters of an inch existed between the dividend ends of the cord. The ends were approximated with No. 3 chromicized cat-gut ligatures. The wound in the dura could not be closed and was drained externally. It healed in fourteen days. The authors reported evidence of reunion as early as the fifth day, as the patient could feel the squeeze of the calf muscle. This sensory return was noted as increasing week by week. By the eighth month the patient could stand. At the time of the report, sixteen months after the injury, the patient was in excellent health, the bowels and bladder were under control, patient could stand with support, but not walk. The reflexes were intact. There was no reaction of degeneration, nor trophic alteration. The motor condition was not essentially different from that seen in simple spastic paraplegia.

If one were permitted to disregard the indefinite sensory return which was reported in this case, the data for motor tract regeneration could be easily disposed of, as none of the symptoms point to positive motor tract regeneration. In a discussion of the case sixteen months after the operation both Spiller and Dercum denied that there was evidence of cord regeneration in this case.

The second case, reported by the late Dr. Fowler, is not so definite regarding the completeness of cord division as that of Stewart and Hart just given, but is nevertheless worthy of short comment, as it is supposed to be definite for cord regeneration.

The patient was a clerk, eighteen years old, who was shot in the back with a .38 calibre revolver; the bullet entered the body at a point one and a quarter inches

to the right of the median line on a level between the tenth and eleventh dorsal vertebrae. The patient suffered severely from shock and immediately exhibited paralysis of the lower extremities, with loss of sensibility up to the level of a line one inch above the crests of the ilia behind and midway between the symphysis pubis and the umbilicus in front. Bladder and rectal control, as well as cognizance of movements of bowels and bladder, were all lost. Operation of removal of the lamina of tenth, eleventh and twelfth dorsal vertebrae was undertaken. The cord was found so divided that the bullet was found lying transversely between the severed ends and concealed from view a large blood clot. The bullet and clot were both removed and the cord was united by means of three fine chromicized cat-gut sutures. The diminution of anaesthesia was slight, the motor palsy persisted.

Even though the length of time between injury and suture had been less than eleven days the results could hardly have been better, as some commentators have seemed to imply. That a considerable period of time, a month or so at least, may intervene between the severance of peripheral nerve fibres and their surgical union without materially altering the final results is a fact of common experience in neurological surgery. The shrinkage downward of the line of anaesthesia from one to three inches in Fowler's case is doubtless due to the early repair of partially damaged sensory roots which supplied this area before the accident. This latter explanation is much more plausible than the spontaneous anastomosis of sensory nerves, a theory borrowed from Langley's experiments which has been disproved and in fact never received general acceptance. The author's suggestion of operative anastomosis of spinal nerves within the spinal canal must remain too hazardous and too difficult for realization, and is therefore of academic interest only.

Finally, I would submit the following as conclusions in answer to the query of this paper:

1. Animal experiments fail to provide conclusive data that central tracts of the nervous system ever regenerate so that the former function is restored. In warm blooded animals, and in the human species in particular, an abortive attempt on the part of the cord to regenerate is largely if not solely confined to fibres of undoubted peripheral type.

2. Histological analysis of cases of hemisection, compression paraplegia, and myelitis, and the like destructive lesions of the cord fails to show positive evidence that actual structural regeneration of axis cylinders ever occurs in the central nerve tracts of the human spinal cord. In case of complete division of the brain and spinal tracts there is simply degeneration, followed by sclerosis.

3. A most acceptable reason for nonregeneration of such tracts is shown in that the compressed nerve fibres do not possess a neurilemma sheath, from which nerve regeneration mainly if not solely occurs. This lack in cord and brain tracts, in contrast to the regenerating peripheral nerves, is due possibly to a difference of embryological origin for these two structures of the nervous system.

4. The cases cited by Stewart and Hart for

cord regeneration either do not fulfill the conditions of test, being merely hemisections, or, the evidences for regeneration are not definite or convincing. The two suture cases reported by Stewart and Hart and Fowler are good illustrations of this type.

5. In cases of complete transverse division of the cord there is no sufficient justification either from experimental or clinical data to warrant suture of the spinal cord in an attempt to cure the defect.

References.

- Vitzon. *Comptes rendus de la Société de biologie*, September 16, 1895.
 Tedeschi. *Zentralblatt für allgemeine Pathologie*, vii, p. 449, 1890.
 Masius and Vanlair. *Zentralblatt für die medizinische Wissenschaft*, 1869, p. 600.
 Brown-Séquard. *Gazette médicale de Paris*, ii, p. 232, 1849; v, p. 250, 1850; vi, p. 477, 1851.
 Denton. *Inaugural Dissertation*, Berne, 1875.
 Schmaus. *Pathologische Anatomie des Rückenmarks*, 1901.
 Kahler. 1884.
 Voit. 1868.
 Stroebe. *Ziegler's Beiträge für pathologische Anatomie*, xv, p. 383, 1904.
 Baer.
 Dawson and Marshall. *Journal of Experimental Medicine*, iv, 1899.
 Dawson and Riggins. *American Journal of Physiology*, March, 1902.
 Eichhorst and Naunyn. *Archiv für experimentelle Pathologie*, ii, p. 225, 1874.
 Raymond. *Clinique des maladies nerveuses*, 1897.
 Huguies and Bernard. 1900.
 Hurd. *New York Medical Journal*, 1845 (cited by Liddell).
 Stewart and Hart. *Philadelphia Medical Journal*, ix, p. 1016, 1902.
 Mixter and Chase. *Annals of Surgery*, xxxix, p. 485, 1904.
 Fowler. *Ibidem*, xlii, p. 507, 1905.
 Vizuis. *Moniteur des hôpitaux de Salpêtrière*, No. 3, 1855.
 Peniston. *Medical and Surgical Journal*, 1851.
 Meryon. *Researches on Various Forms of Paralysis*, London, 1864.
 Morgagni. De sedibus et causis morborum, cited by Liddell in *International Cyclopædia of Surgery*, iv, p. 393.
 62 WEST FIFTY-EIGHTH STREET.

ACUTE ABDOMINAL SYMPTOMS FROM CHRONIC CONDITIONS.*

By FRANCIS D. DONOGHUE, M. D.,
 BOSTON.

The surgeon is occasionally taken to task because he is said to operate for his diagnosis, but that statement is really only a half truth. Operations upon obscure abdominal conditions will continue until some of the limitations upon medical diagnosis are removed.

Chronic conditions in the abdominal cavity, which give rise to acute symptoms are many and varied, and are found so frequently that intelligent prognosis, based upon exact knowledge, is not possible before the abdomen is opened, and sometimes not even then.

An enumeration of the various causes of intestinal obstruction, alone, would make a long list, and would need more than one evening for their consideration. The consideration of all the conditions in which acute symptoms are associated

with chronic disease would be impossible in one paper, even if lengthy, but it is important to bear in mind, at all times, the possibility of such a combination.

For instance, a case of quiescent cholelithiasis may be converted into an acute fulminating condition with gangrene and sepsis within a comparatively few hours. In these cases, the true condition may not be suspected and, even if there is pain, suggesting gallstones, the absence of such symptoms as icterus or the passage of gallstones may mislead the physician. Perforation of gastric or duodenal ulcer and perforation through malignant disease gives rise at once to severe acute abdominal disturbance. Malignant disease of the large intestine, especially of the annular variety, gives rise to few symptoms until acute intestinal obstruction comes on. Retroperitoneal fibromata or sarcomata, unless inflammation or necrosis sets in, are not troublesome, and the same is true of peritoneal cysts. Cases of gangrene of the intestine, either from arterial change or emboli, while acute, may be considered to be due to chronic conditions which are not entirely local.

In the lower abdomen and pelvis we all know how difficult it is to make an exact diagnosis. Even where the diagnosis seems clear, as in the case of fibroids, various complications are likely.

In children chronic conditions other than from developmental defects, causing acute symptoms, are not common. Tuberculosis or sarcoma of the peritonæum or of the peritoneal glands is not uncommon. Tumors of the ovaries occasionally occur, and once in a while an imperforate hymen leads to an accumulation of menstrual blood in the vagina, which causes the uterus to appear as an abdominal tumor.

Of course, appendicular inflammation may be chronic in children, but is manifested more by upsets of digestion than by marked local trouble.

To illustrate the difficulties in abdominal diagnosis and to indicate how chronic conditions may give rise to acute symptoms, I present for consideration two cases. One is a case of sarcoma of the transverse mesocolon and growing into the stomach with many metastases in glands and liver, in which an operation was followed by general sarcomatosis, with death at the end of four and one half months. The other is a case of ovarian tumor with torsion of its pedicle, occurring in a girl of twelve, with symptoms strongly suggesting appendicitis, in which operation was followed by recovery.

CASE I.—A boy, nine years of age; family and personal history negative. The present illness began with pain or soreness in abdomen, following a game of baseball. His discomfort gradually increased, and on June 4, 1904, Dr. F. C. Jilson was called. This was four or five days after the first symptoms. He found pulse and temperature normal, but in the epigastric region, he found a tumor about the size of a child's head, slightly painful and freely movable. There was no vomiting or constipation. The following day, as the boy was not improved, I saw the case in consultation. No absolute diagnosis was made, but omental or lymphatic trouble was considered, as was appendicitis.

Operation, assisted by Dr. Jilson, under ether was

* Read before the Fitchburg Society for Medical Improvement, October 9, 1905.

performed at the patient's home. The day was extremely hot and the room, directly under the roof, was so warm that there must have been a minimum of shock to the patient. The abdomen was opened through the right rectus muscle. Through the incision came out a nodular tumor continuous above with the stomach and continuous below with the transverse colon. Scattered all through the omentum and involving the retroperitoneal glands were masses of new growth. The stomach was clamped on either side of this mass, which was excised with a portion of the stomach as well as a portion of the transverse colon and a portion of the transverse mesocolon. It was impossible to remove all the retroperitoneal glands, as the disease extended too far up under the liver. Stomach and large intestine were sutured and incision closed with drainage in upper portion. The recovery from operation was uneventful, and the patient was up and about in three weeks.

Between six and seven weeks after the operation, he began to complain of pain in the pit of the stomach, and induration was found about the scar. Afterwards he had considerable pain in his spine and in the lower back part of his head. General sarcomatosis was well marked by the first of September, and from this time until he died, on October 19th, he failed steadily, although comparatively free from pain.

The pathologist's report on the specimen was as follows:

HARVARD MEDICAL SCHOOL,
Boston, September 15, 1905.

Dr. FRANCIS D. DONOGHUE,
Boston, Mass.

Dear Doctor: The specimen from the mesocolon of a boy *æt.* 12, September 12th (S. 59-1), consisted of a lobulated mass of new growth to which the omentum was adherent. At one point was attached a small piece of the stomach wall about 2 centimetres in diameter. On section it was homogeneous and grayish. One lobule was markedly reddened, and softened as if from inflammatory action.

Microscopical examination of the growth showed a structure of large round cells separated by a little rather homogeneous, intercellular substance. It was divided up by bands of connective tissue irregularly. The bloodvessels, aside from those in the fibrous bands, seemed to be spaces hollowed out in the cellular tissue.

Diagnosis: Large round cell sarcoma of undetermined origin, but probably from the lymph nodes.

Yours very truly,

(Signed) WILLIAM F. WHITNEY.

This case shows that: Sarcoma of mesenteric or retroperitoneal glands do not give the classical symptoms usually ascribed to sarcomata of the intestinal tract. The previous history indicates that this may have had a fairly rapid growth. Pain, wasting, and anæmia were absent, and as far as known there had been no continued fever. The diagnosis must be made by exclusion as aside from the presence of a tumor in a boy, there was little positive evidence of its nature. A leucocyte count would not have aided in the diagnosis.

CASE II.—The patient was a girl, twelve years of age. On February 7, 1905, I was called to see her in consultation with Dr. F. H. Cohan, of Leominster. I saw the patient about 2 a. m. the next morning. The previous history of the case contained nothing notable, except an occasional attack of indigestion. On February 1, 1905, after she had been skating, she complained of severe pain low down in abdomen, and vomited. When the physician saw her he found temperature 98.2°, pulse 80. He noted no tenderness of abdomen, and pain was intermittent. Under hot packs

and calomel pain subsided, and she attended school on the following day. On February 4th, while at the table, the girl was seized with severe pain in right iliac fossa and vomited. There was partial collapse, cold sweat, but no abdominal tenderness on pressure. Pulse 90, temperature 98° at 12:30 p. m.

On the 5th in spite of free movement of bowels pain persisted, and examination by rectum revealed a mass, below and to right of the uterus, of about the size of a small orange. Patient was comfortable, but developed on the sixth some abdominal distention, and an anxious looking face. Still no abdominal tenderness. Pulse 108, temperature 100°.

On February 7th, the physician called a surgical consultant. There was increased distention, gurgling on pressure in right iliac fossa. Patient's face more anxious. Pulse 120, temperature 101.4°. Pain had entirely disappeared early on the morning of the 6th. For the first time a probable diagnosis was made, it being considered a case of appendicitis with general peritonitis, but on account of nonlocalization of symptoms it was thought chances would not be improved by operation.

On February 7th, 6 p. m., patient still comfortable. There was more distention, pulse 134, temperature 102.3°. Examination at 2 a. m., February 8th. Pulse 144, temperature 103.5°, respiration 40. There was great abdominal distention, with marked tympanites and muscular rigidity, but no tumor to be felt by palpation, and no particular local tenderness, but general soreness all over abdomen.

Believing that the patient's chances of recovery would not be lessened by the operation of laparotomy, and that if the condition was one that could be relieved by a quick operation her chances would be greatly improved, operation was advised.

Operation was performed at 3 a. m. under ether, assisted by Dr. Cohan and Dr. F. C. Shultis, who administered the anæsthetic. A one inch incision, through the right rectus muscle, opening the abdomen, allowed a fairly normal appendix to be brought out and removed. There was considerable free fluid in the abdomen and marked distention of all presenting intestines. Not satisfied that the condition of the appendix satisfactorily explained the symptoms, the incision was enlarged downwards, so that fingers could be passed down into the pelvis. By this means a tumor of about the size of a lemon, dark, injected, and hæmorrhagic, was pulled out, and it was found to correspond with the left ovary. This was removed, and abdomen closed without drainage.

Recovery was uninterrupted, except that on the third day, the temperature rose to 103°. Removal of two stitches about which there was redness, followed by the application of wet creolin dressings, caused temperature to come down to normal.

Preliminary to operating, thirty minims of fat free tincture of digitalis was injected deep into muscles of thigh and twenty more given when she was returned to bed.

Dr. Whitney reports that the tumor was a dermoid cyst of the ovary with beginning gangrene.

This case is similar to one reported by Dr. Bevan and Dr. Favill in the *Journal of the American Medical Association*, September 2, 1905, in that the symptoms came on after skating. This patient, however, in addition to skating, had a fall. Their case was carefully watched and studied, and the explanation of its unfavorable termination merits careful consideration. The essentials of their report are as follows:

In January, 1905, there occurred in our practice a case of gangrenous ovarian cyst with twisted pedicle.

The patient was operated on and the case terminated fatally four days and a half later. The clinical picture was a very unusual one. Although we were aided in the conduct of the case by four consultants, a gynecologist, an internist, a neurologist, and a pathologist of more than ordinary ability, no definite diagnosis of the cause of the singular symptoms could be made. The parents of the child, fortunately, were intelligent and considerate, and realizing the importance to humanity and to science of ascertaining the exact cause of death, as the first step to the prevention of a similar result in other cases, permitted a post mortem examination. This was made with the greatest thoroughness, gross, microscopically and bacteriologically, and yet even then the cause of death was obscure and remained so until a careful review of the literature enabled us to collect twenty-nine more or less scattered cases, either identical or very similar to our own, in the light of which we believe the diagnosis becomes clear. We have found also certain comparatively recent experimental work reported, which assists materially in the understanding of the case.

Dr. Favill's Report of Case.—We shall cite first the outline of our experience, which it seems worth while to report, first, because of its essential importance as a positive clinical picture; second, because of its value with respect to negative demonstrations.

The patient was a girl, aged twelve and a half years, with the stature of a woman and the mental development of a girl of sixteen or eighteen. Not at all a "freak," but simply a noticeably handsome, well developed, and intelligent girl. She menstruated at the age of eleven and a half, and was reasonably regular thereafter.

History.—Her history as to illness is negative. At three she had an acute otitis media which was treated by puncture, under chloroform, and recovered promptly and permanently; since that time no illness of any consequence, though she was of a lithemic type.

January 17th. She came home from skating, complaining of great pain in the lower abdomen. Her menstruation being due, though it was habitually painless, her pain was ascribed to that fact. The pain was very severe. When seen two hours later it was somewhat less, but still severe. Temperature 98.4° , pulse 72; general abdominal tenderness, but absolutely no local increase. The appendix was excluded, and the conclusion as to premenstrual pain adopted. Some whiskey was given her, which she vomited.

A nurse was called; the child was covered with a flaxseed poultice on the lower abdomen, small doses of phenacetin at intervals and saline cathartics were given.

January 18th. In the morning her temperature was normal, but she was still in some pain. Temperature in the evening was 99° . She had a comfortable day and began to menstruate at 11 p. m. **January 19th.** Thursday was an uneventful day; very little pain, no abdominal distention and very little tenderness; the bowels moved twice slightly; temperature at 5 p. m. was 99° . She vomited some orange juice at noon; she was cheerful and feeling well, however. **January 20th.** Friday she was still in pain; temperature 100.5° . Inasmuch as the menstrual conditions did not seem to justify any increase of symptoms, suspicion was aroused; a blood count showed 11,600 leucocytes. Dr. Bevan was called in consultation. Temperature gradually rose and slight tenderness developed in the neighborhood of the appendix. At 2 o'clock the temperature was 102.2° , leucocytes 14,000. Free bowel movement. At 9 p. m. the temperature was 102.6° , pulse 108, leucocytes 16,500. Dr. Webster was called in consultation. A diagnosis of appendicitis was fully agreed on, and an operation was performed about midnight. Previous to the operation a thorough pelvic examination

was made bimanually by rectum, but no palpable abnormality was found.

Operation.—The operation was performed under chloroform, and it is noteworthy that it took a long time and an unusually large amount of chloroform to establish anaesthesia. The exact amount of chloroform, however, was not noted at the time, but it is clear that in both respects the anaesthesia was noticeable.

Because of some rather definite sense of resistance under the right rectus muscle, just above the pubes, the incision was made through the right rectus. The peritoneal cavity was opened and the appendix was found injected and buried in lymph directly under the incision. It was removed, and the stump invaginated in the ordinary way. On separating the coils of intestines which surrounded the appendix, a black mass was seen. At first glance this was thought to be a gangrenous bowel, but on separating the intestines a gangrenous ovarian cyst and tube of the left side were brought into view. The intestines in contact with the mass were covered with a thin layer of lymph. There was no pus. The pedicle was ligated proximally to the point of torsion, and the dead mass removed; the abdomen was closed without drainage. No time was lost in any way, and although the exact time was not noted, the operation was a rather short one.

Postoperative History.—From the time of operation till death, the dressings were not removed from the wound. The abdomen was flat, soft, and painless, and there were absolutely no evidences of peritonitis.

The patient was returned to bed in excellent condition; temperature 101.6° , pulse 102, and thoroughly conscious at 1.45 a. m. The succeeding hours were unusually comfortable. The temperature steadily fell until Saturday at 11 a. m., when it was 99.8° , pulse 86, respiration 23, and leucocytes 12,000. The patient had a very comfortable day, temperature 101.2° at 4 p. m.; she vomited a trifle at 7 p. m., and flatus was expelled freely.

January 22nd. Sunday, at 8 a. m., the temperature was 98.6° , pulse 100. She slept more or less during the night, vomited a little, and passed several slight stools. She complained of feeling hungry. She continued in this comfortable way all day Sunday. At 7 p. m. temperature was 99.2° , pulse having risen to 112, and the mother noticed that the patient was not quite natural in her remarks. The attention of the physicians was called to this point, but the incident was so slight as to seem unimportant to them. At 11 p. m. the physicians were again called. The child was talking incoherently, and exhibited evidences of very great fright. The picture of this mental condition is so unusual and from comparison with the experiences of others so typical that we venture to dilate on it. First, its appearance almost out of a clear sky. The child had been phenomenally favorable in her progress until forty-four hours after the operation. Second, the element of fright as the initial manifestation. Third, the rapid lapse into incoherence and unremitting delirium. Her first noticeable departure from the normal was at 8 p. m. on Sunday, and at 11 p. m. she gave the last obvious recognition of anybody. From that time on it was a series of alternations between sleep and delirium, more or less talkative, with a curious shrieking outcry. The delirium was controllable to a certain extent by small amounts of morphine hypodermatically, but except for that nothing seemed to affect her condition.

Consultation with Dr. Patrick.—Of course, the question of septic meningitis arose immediately. At noon on Monday, January 23rd, Dr. Patrick was invited into consultation. At that time there were present the following significant signs: Considerable muscular rigidity, exaggerated tendon reflexes, particularly patel-

lar, ankle clonus, and a perfectly marked Babinsky's reaction. Nevertheless, the consultation did not result in a clear diagnosis of meningitis.

Consultation with Dr. Billings.—Monday afternoon Dr. Billings was invited into consultation. The conditions were about the same, except that the pulse was steadily going up, and the temperature slightly, being 101.6°, the pulse 130, and the respirations 21. There was also more or less suspicion of endocarditis and pericarditis, and it was suspected that the sepsis had invaded the cardiac structures.

Termination of the Case.—The progress on the following day, Tuesday, was uneventful, the pulse remaining high much of the time, the temperature varying between 99.4° and 101.8°, respirations between 22 and 28. Cheyne-Stokes respiration was present. The conditions continued without material change until Wednesday morning, when the temperature gradually began to rise; the pulse became very irregular and rapid, and finally death ensued at 2 o'clock, 110 hours after operation.

After a careful autopsy by Dr. Hektoen, the diagnosis was made of death from hepatic toxæmia, acute fatty degeneration of the liver, following chloroform and ether anæsthesia.

Ovarian cysts in children are not rare, the majority being dermoid, like the ones reported. The clinical symptoms are acute pain, and later peritonitis with vomiting, fever, rapid pulse, and tympanism. Pain is referred to spot where torsion takes place, and is usually low down in the pelvis. The results of the torsion are varied. Usually hæmorrhage takes place into the cyst, and its wall often become gangrenous, the seriousness of the condition varying with the degree of torsion. In some cases the comparative absence of pathological changes is due to the thickness of the pedicle and the fact that the circulation is not entirely interrupted.

The symptoms may subside in a few days and entirely disappear. If adhesions form, the cyst becomes fixed and may increase in size.

Recurrence of the symptoms may take place, due either to untwisting (detorsion) of the pedicle or a new torsion. The only treatment is laparotomy.

As it is impossible by mere macroscopic examination to distinguish between benign and malignant ovarian cysts, every ovarian cyst should be submitted to operation and removed with the least possible delay after its discovery, because of the uncertainty of its nature. They should invariably be removed entire without tapping, incision being prolonged to the necessary extent.

409 MARLBOROUGH STREET.

BACTERIOLOGICAL TYPES OF ACUTE CONJUNCTIVITIS.

By ALEXANDER DUANE, M. D.,

AND

T. W. HASTINGS, M. D.,

NEW YORK.

(Continued from page 1061.)

PART II. REMARKS ON THE BACTERIOLOGY, by T. W. HASTINGS, M. D.

Review of Recent Articles on the Bacteriology of Conjunctivitis.—From the many articles dealing with the acute purulent inflammations of the con-

junctiva we have selected the following for short review, since, in the main, they are concerned with conditions clinically similar to the cases upon which our report is based. We have omitted from this survey articles dealing with the bacteriology of trachoma, with Petit's diplobacillus liquefaciens and the discussion raised as to its relation to the Morax-Axenfeld diplobacillus, and with the influenza and pseudoinfluenza bacilli. As regards the last named we may say that in some cases showing fine Gram negative bacilli in the conjunctival discharge we endeavored to obtain growth upon blood agar media, and these cases proved to be infections due to the Koch-Weeks bacillus with no evidence of infection by influenza bacilli.

Randolph (3), in 1903, listed the bacteria found in eye inflammations in two groups, viz., under the micrococci, including streptococcus pyogenes, staphylococcus aureus, staphylococcus albus, the pneumococcus, and the gonococcus; and under the bacilli, including Koch-Weeks's bacillus, the Morax-Axenfeld bacillus, the diphtheria bacillus, the xerosis bacillus, the bacillus pyocyaneus, the colon bacillus, and the tubercle bacillus. Randolph regarded the micrococcus epidermidis albus and the xerosis bacillus as constant inhabitants of the conjunctival sac, and under certain conditions as pathogenic and the cause of inflammations. The colon bacillus as a rule he considered as nonpathogenic (in this respect differing with Groenouw and others). The importance attached by Bietti (4) to the xerosis bacillus in conjunctival catarrh is not upheld by the reports of Pollock (8), Fergus (12), Randolph (3), and Meyerhof (13).

Groenouw (2) in one hundred cases of ophthalmia neonatorum found fifty-nine in which no gonococci were present. Out of these, he thinks, that in fourteen the conjunctivitis could with probability be attributed to the following: Pneumococcus in five cases; streptococcus in two cases; and bacillus coli in seven cases. Somewhat doubtful to his mind were five other cases in which the exciting cause seemed to be staphylococcus aureus in four cases, and micrococcus luteus in one case. The bacillus pneumoniae was found in one of the gonococcal cases, probably as the result of a late secondary infection.

It is to be noted that three organisms which are admittedly pathogenic for the conjunctiva, namely, Weeks's bacillus, the diphtheria bacillus, and the Morax diplobacillus, were not present in a single one of his one hundred cases. In this regard the conjunctivitis of the new born is evidently very different from that of older children and of adults.

In one third of his cases no germs were found to account for the conjunctivitis, i. e., either he found only the bacillus xerosis or some similar innocuous organism or else staphylococci in too small an amount to be of significance.

As regards the part played by the staphylococci, he says that it has been proved that they can cause ulceration of the cornea, and cites Kalt and Coppez, who believe that even in gonococcal conjunctivitis the staphylococci act by entering the cornea after the toxins produced by the gonococci have injured the corneal epithelium. Coppez believes, furthermore, that there is a true staphylococcus conjunctivitis, which may appear under varying forms. Since the virulence of these cocci varies extremely, and since probably only the virulent forms are able to cause inflammation, Coppez insists that it is important to test the virulence in each case. Groenouw, following Uhthoff, thinks that the question of there being such a thing as a staphylococcus conjunctivitis is still an open one. In his own

series of one hundred cases the staphylococcus albus was present in nearly all, the staphylococcus aureus in about one third; but neither germ, he holds, can be regarded as significant unless present in large numbers and unaccompanied by any other organism capable of causing mischief. This was so in twelve of his cases, in four of which the staphylococcus aureus was found, in eight the staphylococcus albus. But these latter, he thinks, are offset by two cases, in which the eye was perfectly normal and yet contained the staphylococcus albus in large numbers. This negative testimony does not appear to us quite conclusive, and we should be inclined to think that in at least some of the eight positive cases the staphylococcus albus was a factor in causing the inflammation.

As regards the symptoms, Groenouw says that the gonococcal were distinguished from the nongonococcal cases of ophthalmia neonatorum by their greater severity and duration. In not a single one of the nongonococcal cases was the cornea involved, and in such cases in which the gonococcus is not found the prognosis may be stated as absolutely good. Here, again, we see a great difference between the conjunctivitis of the new born and the conjunctivitis of older children and adults, in which, as everyone knows, ulceration of the cornea is often produced by other germs than the gonococcus.

Groenouw's cases suggest that in so called gonorrhoeal ophthalmia of the adult careful bacteriological examination of the conjunctival secretion will show that the gonococcus is not present nearly so often as formerly supposed. He says that in ophthalmia neonatorum the differentiation of the gonococcus by cover glass preparations alone is easy, since this germ is practically the only Gram negative micrococcus found in the conjunctiva. However this may be for infants, it does not hold for older children and for adults, in whom a purulent conjunctival discharge containing Gram negative diplococci may be due as frequently to a mixed infection with the micrococcus catarrhalis and some other organism as to the gonococcus. Cultural methods readily establish the presence of the micrococcus catarrhalis.

Brewerton (5), in a communication to the Æsculapian Society, from an examination of some one hundred cases of conjunctivitis, obtained the following results:

| Bacteria found. | Purulent conjunctivitis. | Mucopurulent conjunctivitis. | Catarrhal conjunctivitis. |
|--|--------------------------|------------------------------|---------------------------|
| Gonococcus..... | 5 | .. | .. |
| Pneumococcus..... | 4 | .. | .. |
| Koch-Weeks's bacillus..... | 1 | .. | .. |
| Streptococcus..... | 3 | .. | .. |
| Diphtheria bacillus..... | 2 | .. | .. |
| Staphylococcus albus..... | 2 | 9 | 8 |
| Staphylococcus aureus..... | 1 | 8 | 4 |
| Staphylococcus citreus..... | .. | 4 | 1 |
| Hofmann's pseudodiphtheria bacillus..... | .. | 2 | 3 |
| Xerosis bacillus..... | .. | 4 | 6 |
| Bacillus coli..... | .. | 1 | 7 |
| Morax's diplobacillus..... | .. | 12 | .. |
| Sarcina lutea..... | .. | .. | 3 |

He states that only fifty per cent. of the cases of ophthalmia neonatorum are caused by the gonococcus (Cf. Groenouw's findings cited above), and that cases which recover rapidly are due to the pneumococcus. He further believes that in their ability to produce sloughing of the cornea the bacteria rank as follows: (1) Streptococcus; (2) gonococcus; (3) staphylococcus [? aureus]; (4) diphtheria bacillus; (5) Weeks's bacillus; (6) staphylococcus albus.

Dolganoff and Sokoloff (6) showed that in rabbits staphylococci and streptococci introduced into the conjunctival sac produced only a transient catarrh, but if the staphylococci were introduced into the cornea, they caused a superficial ulcer at the site of inoculation and also a ring of infiltration at the periphery of the cornea. And if the staphylococci gain entrance into the

substance of a corneal scar, they cause an inflammation which spreads fast, soon involves the deeper structures, and at length completely destroys the eye.

Smith (7) examined bacteriologically one hundred cases of eye disease with positive results in all but eleven cases, seven of which were of conjunctiva, two of cornea, and two of other structures. The conjunctiva was diseased in sixty-two cases, the cornea in fifteen, the lachrymal apparatus in eleven, the lids in nine, and eight were operative cases. The gonococcus was found in but nine cases, and the diplococcus (?) in five of the conjunctival cases, without the presence of other organisms. The remaining organisms found were frequently association with other species. The pneumococcus was found in eighteen cases, viz., ten conjunctival, three corneal, five lachrymal. The Koch-Weeks bacillus in four conjunctival and one lachrymal cases, in all in five cases. Staphylococcus albus in ten conjunctival, four corneal, four lachrymal, and one other case, in all in nineteen cases. Staphylococcus aureus in two conjunctival, five corneal, one lachrymal, and two other cases; in all in ten cases. Staphylococcus epidermidis albus, without other organisms, in one conjunctival and two other cases; in all in three cases. The streptococcus in two conjunctival, two corneal, five lachrymal, and two other cases, in all in eleven cases. The Morax-Axenfeld bacillus in eight conjunctival, one corneal, one lachrymal (in the latter without bacteria); in all in ten cases. The xerosis bacillus twenty-three times in a great variety of conditions. The streptobacillus (?) was found in three conjunctival cases. Other bacilli, diplobacilli, and diplococci (diplococcus catarrhalis?) were found in twenty-eight cases, and in seven cases results were unsatisfactory. Of the staphylococcus cases, staphylococcus albus was more often found in conjunctival, staphylococcus aureus in corneal disease. In the lachrymal cases the streptococcus and pneumococcus predominated.

In a second series of one hundred cases (14), Smith describes sixty-five cases of conjunctivitis, ten of lachrymal disease, ten of corneal infection, and fifteen of other conditions (chalazia, styes, etc.). Of the cases of conjunctivitis, fourteen were due to staphylococci, twelve to the pneumococcus, three to the streptococcus, three (of ophthalmia neonatorum) to the gonococcus, one to the diplococcus intracellularis meningitidis, five to other unidentified diplococci, six to the Morax diplobacillus, one to the Weeks bacillus, and one to the diphtheria bacillus, while in other cases bacilli of the xerosis, subtilis, and colon groups were found, and in nine cases the finding was uncertain or negative. Of the ten corneal cases four (including two which went on to panophthalmitis) were due to the streptococcus and two to the staphylococcus aureus. Of the ten lachrymal cases, pneumococci and streptococci were found in seven.

A striking feature of Smith's two series is that out of 127 cases of conjunctivitis the Weeks bacillus was found in only five.

Pollock (8), in 1904, published the results of bacteriological examinations of 204 cases of conjunctivitis, of which 145 were acute mucopurulent infections. The Koch-Weeks bacillus was found in 108 of these 145 cases; seven were due to Morax's bacillus; one to the pneumococcus; two to the gonococcus; and six to the staphylococcus aureus. There were three cases of mixed infection, and eighteen examinations gave negative results. In twenty cases of subacute conjunctivitis the Morax bacillus was found fourteen times, the Koch-Weeks bacillus once, and five examinations were negative. The frequency of bacillus xerosis was not stated, but the later paper of Fergus (12), to whom Pollock

* There were three other cases of ophthalmia neonatorum which Smith thinks were probably gonorrhoeal in character, although the gonococcus was not found. But cf. Groenouw's results cited before.

referred, stated as his (Fergus's) opinion that the bacillus xerosis found so often in the normal conjunctival sac is in no sense pathogenic. Fergus stated distinctly that by bacteriology alone can one absolutely determine in the early stages whether a case of conjunctival inflammation is due to the gonococcus, to Morax's diplobacillus, or to Weeks's bacillus. He noted that the finding of Gram negative diplococci is "the strongest proof" that one is dealing with a gonorrhoeal ophthalmia.

The results recorded in this paper do not bear out this last statement, since the micrococcus catarhalis, a Gram negative diplococcus, was found much more frequently than the gonococcus in our series of cases (a result not surprising when one bears in mind that bacteriological examinations of sputa and nasal secretions showed the frequent occurrence of the same organism in these secretions during the same period, 1903-1904). Aside from this statement in respect to Gram negative diplococci our results correspond to those of Pollock, Fergus, and of Meyerhof.

Oliver (9), before the Wills Hospital Ophthalmic Society, stated that the majority of the diseases of the conjunctival sac were microbic in origin, and he subdivided the conjunctival diseases in strict accordance with the clinical manifestations of the prevalent germs and by repeated bacteriological study regulated his therapy.

What interests us most is, that he had reached the conclusions that "all conjunctival diseases are primarily the result of mixed infection, one or more types of germ life gaining the ascendancy and giving the clinical peculiarities to the individual case." In the destruction of the parts, he had found that it was not the prevalent microbe which destroyed the organ, but that the particular microbic invasion so reduced the protective agents in their activities as to allow the organ to become the prey of the pyogenic forms of bacteria. (Cf. Coppez's view cited above.) The results here reported bear out Oliver's opinion.

Standish (10), in 1904, emphasized the fact that in the earlier stages the infection produced by staphylococcus, streptococcus, or the Klebs-Löffler bacillus, "absolute dependence" must be placed upon bacteriological examination in order to distinguish such infections from gonorrhoeal invasion.

Bossalino's investigations (11) seem to show that the reason why the various forms of staphylococci present in the conjunctival sac fail to do harm to the eye after cataract extraction is not so much that the eye itself is resistant as that the germs themselves are rendered more or less inert, the weakening of their pathogenic power being due perhaps as Valude and others hold to the germicidal action of the tears, or to the effect of antiseptics instilled into the conjunctival sac. But in some cases, at least, the power for ill of the conjunctival staphylococci is suspended only, not abolished, and when placed under suitable conditions these apparently harmless organisms can produce very destructive results. This accords with Gifford's statement already cited.

Meyerhof (13), working in Cairo, Egypt, refers to the xerosis bacillus as of secondary importance, and in 300 cases of acute purulent inflammation found the Koch-Weeks bacillus in 157, the gonococcus in eighty, the Morax bacillus in thirty-seven, the pneumococcus in ten, streptococcus in four, influenza bacillus (Müller's bacillus?) in two, Friedlander's bacillus in one, and organisms without pathological significance in seven cases. Here also is to be noted the less frequent occurrence of the gonococcus.

Gifford (15), in a very recent article on the clinical importance of the Morax and Axenfeld diplobacillus,

says that in the majority of cases this germ causes such insignificant symptoms, that the affection produced by it in many cases is hardly classed as a conjunctivitis at all. There is often but very little secretion (hardly more than occurs in normal eyes) and hardly any redness except at the inner angle of the eye. The chief subjective symptoms are slight itching and an inability to read at night. There are, furthermore, two other types of diplobacillus infection, which objectively resemble trachoma, one, an acute process, with considerable secretion and marked swelling and roughening of the retrotarsal folds; the other, a chronic form, with moderate roughening and redness of the retrotarsal folds, and with half dried secretion, covering the lids, but without much involvement of the tarsal conjunctiva.

Finally, there are some cases, like those reported by Gifford himself and by Axenfeld, Paul, Erdman, and Schmidt, in which there is serious ulceration of the cornea. As a matter of diagnostic significance, Gifford also points out that corneal ulcers may be produced by two other types of diplobacillus, one described by Petit, the other by Rochat, which differ culturally from the Morax-Axenfeld germ. The last named liquefies blood serum, but does not grow at all on gelatin, and little or not at all on agar. Petit's diplobacillus, while morphologically identical with the Morax-Axenfeld germ and like it liquefying blood serum, differs in growing freely on agar and to some extent on gelatin, which it liquefies. Rochat's diplobacillus liquefies gelatin, but does not liquefy blood serum.

The subject of staphylococcus infections of the conjunctiva has been carefully considered recently by Poulard (16), who has reported nine cases of undoubted staphylococcus invasion of a special type, i. e., following bordeolum. He states that the growth of staphylococci from the normal conjunctival sac is scanty, the colonies being nearly always white, exceptionally yellow. In conjunctivitis of the acute contagious and blennorrhagic types the staphylococcus occurs no more frequently than in the healthy conjunctiva. On the contrary, it is frequent in phlyctenular conjunctivitis, and yet here some will not allow the staphylococcus a pathogenic rôle. He describes cases which he thinks due to the staphylococcus which occurred in abundance in the secretion. After or during the evolution of an infection, usually palpebral, there appear in one eye symptoms of acute conjunctivitis. The condition is unilateral. A moderate secretion, mucopurulent, yellow, forms in the cul de sac and, being sticky, applies itself to the conjunctival surface as a fine pellicle readily detachable. The maximum lesion is in the cul de sac, where the folds are swollen and uniformly brick red. The bulbar conjunctiva is often very vascular. The lower lid is at times red and swollen. The eye opens incompletely. On the edge of the lid one can trace evidence of the preceding trouble. The preauricular ganglion is swollen and painful on pressure. This adenitis is in consequence of the conjunctivitis and disappears with it. There are no particular subjective symptoms. After five to ten days there is amelioration, and after twenty to thirty days cure; the cornea remains intact. Of diagnostic importance are: Unilateral occurrence, moderate secretion, the easily detached pellicle, long duration, the adenopathy, the special aetiological factor (bordeolum), and the bacteriology. Smears from the secretion showed cocci isolated and in pairs and in groups, abundant, positive to Gram's stain. Cultures in eight cases gave staphylococci; staphylococcus aureus alone in three; staphylococcus albus alone in one; staphylococcus albus with staphylococcus citreus (pale yellow) in one; type not stated in three. In two instances with the staphylococci occurred clubbed bacilli found to be non-pathogenic for the guinea pig, and so disregarded.

Poulard concludes that the condition is rare, since only nine cases came under his observation in two years and a half.

McNab (17) gives two cases in which grave ulceration of the cornea was produced by the bacillus pyocyaneus.

A later article by McNab (18) gives the bacteriological examination of scrapings from the conjunctiva and from the ulcers in twenty-five cases of corneal ulcer with hypopyon. The following were found:

| | Ulcer. | Conjunctiva. |
|-------------------------------------|--------|--------------|
| Fraenkel's pneumococcus | 16 | 11 |
| Bacillus xerosis | 9 | 13 |
| Staphylococcus pyogenes albus..... | 3 | 4 |
| Staphylococcus pyogenes aureus..... | 2 | 3 |
| Streptococcus pyogenes largus..... | .. | 1 |
| Diplococcus ? | 1 | 1 |
| No growth | 2 | .. |

Routine of the Bacteriological Examination Pursued in the Present Series of Cases.—The initial cultures were prepared by streaking the purulent material with a platinum needle or spatula upon the surface of glycerin agar plates. No attempt was made to distinguish various strains of streptococci.

Smears of the conjunctival exudate were first examined after staining by Gram's method, controlled with known Gram negative and Gram positive organisms; and after staining for capsules by Welch's method or His's twenty per cent. copper sulphate method, when necessary. The media used for cultures varied with the findings in the smears.

For the pyogenic cocci, micrococcus catarrhalis, micrococcus tetragenus, and the Koch-Weeks bacillus, plants were made on glycerin agar, and plain agar, and in gelatin. When Gram positive bacilli, suggesting bacillus xerosis, bacillus diphtheriae, or the Morax-Axenfeld bacillus were present in the smears, plants were also made on blood serum media and in plain broth and glucose broth.

For mixed infections with the pneumococcus present, the organisms were differentiated by growth on blood smeared agar (hæmoglobin media) and, in doubtful cases, the pneumococcus was isolated by inoculation into mice.

For further transplantation for identifying the various organisms, the ordinary culture media, plain agar, glucose agar, neutral red agar, plain milk, litmus milk, plain broth, glucose broth, and potato, all faintly alkaline in reaction to litmus, were made use of. In a few instances the pyogenic cocci occurred as an isolated colony or two, which suggested possible air contamination, and such were not considered in our results. Where the pyogenic cocci were noted as probably a factor in the inflammatory condition, they were obtained as an abundant growth upon ordinary media.

In no instance was the virulence of the organisms tested, excepting in the cases of pneumococcus infections, where mice were inoculated primarily in order to isolate this organism in pure culture. All of the pneumococcus strains were rapidly fatal for mice.

References.

1. Gifford, H. *Archives of Ophthalmology*, xxvii, 6, 1898.
2. Groenouw, A. *Archiv. für Ophthalmologie*, lii, 1, 1901.

3. Randolph, R. L. *Journal of the American Medical Association*, xl, p. 821, 1903.
4. Bietti, A. *Annali di oftalmologia*, xxxii, pp. 188, 339, 1903.
5. Brewerton, E. W. *Lancet*, April 11, 1903, p. 1036.
6. Delestedt, W. and Schmidt, M. *Archiv für Augenheilkunde*, June, 1903. Translated in *Archives of Ophthalmology*, July, 1905.
7. Smith, D. *Yale Medical Journal*, May, 1904.
8. Pollock, W. B. I. *British Medical Journal*, 1904, ii, p. 1172.
9. Oliver, C. A. *Journal of the American Medical Association*, xliii, p. 420.
10. Strabish, M. *ibid.*, xliii, p. 1855, 1904.
11. Bossalino, D. *Annali di oftalmologia*, xxxiii, 3 and 4, 1904.
12. Fergus. *British Medical Journal*, 1905, i, p. 523.
13. Myerhof. *Klinische Monatsblätter für Augenheilkunde*, xliii, 9, 1905.
14. Smith, D. *Archives of Ophthalmology*, xxxiv, 5, p. 481, 1905.
15. Gifford, H. *Ophthalmic Record*, xiv, 11, p. 51, 1905 (citing Sweet, Paul, Erdmann, Schmitt, McNab, and Rochat).
16. Poulard. *Archive d'ophthalmologie*, xxv, 1905, p. 603.
17. McNab, A. *Klinisches Monatsblatt für Augenheilkunde*, xliii, December, 1905.
18. McNab. *Ophthalmological Review*, xxv, March, 1906, p. 67.

ATROPHY OF THE INTRINSIC MUSCLES OF THE HANDS DUE TO LEAD POISONING.*

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Among various nervous symptoms produced by lead intoxication the most common is paralysis of the extensor muscles of the forearm (wrist drop) with or without wasting of the same muscles. Primary atrophy of the small muscles of the hands due to lead poisoning, although not very rare, is, however, not commonly met with. The present case is an illustration of the latter occurrence.

CASE.—In May, 1905, A. B. Y., printer by occupation for seventeen years, sustained an injury in his right hand while manipulating an instrument covered with a fluid which is used for printing purposes. The wound healed up in ten days, but at the end of that time the patient had a typical attack of lead colic with obstinate constipation; he also had a blue line on the margin of the gums. In July a double wrist drop supervened. The condition rapidly improved. Nine days later, while convalescing from the forearm palsy, he noticed a rapidly coming on weakness in both hands, more in the left than in the right.

Examination on November 3, 1905, showed no abnormal symptoms in the lower extremities; in the upper the extension of the wrists was normal, a proof of complete recovery of the musculospiral nerves. Flexion at wrists was weak. The flexor muscles of the forearms and flexor ossis metacarpi pollicis of both sides were atrophied, which atrophy was more marked on the left side than on the right. There was a partial anæsthesia over the terminal phalanx of the left thumb and the last two phalanges of the left index fingers. The fingers were cold and there was some trophic disturbance of the nails of both hands, which presented a more marked concave surface than normally. When the fingers were extended, both hands (left more than

* Patient presented before the Philadelphia Neurological Society, March 27, 1906.

right) presented the clawlike appearance. The thenar and hypothenar muscles were markedly atrophied. The interossei were also atrophied; this was especially marked in the first interosseous space. The amyotrophy was that of the Aran Duchenne type and more marked on the left than on the right side. Fibrillary twitching was noticeable in the atrophied muscles. Electrical examination showed at that time marked reaction of degeneration in all the small muscles of the hands, more pronounced in the left hand than in the right. As to the flexors and extensors of the forearm, while there was no RD, the first responded to a stronger current than the latter.

A course of massage and electricity improved the patient's condition considerably. At present there is a great gain in power of the muscles of the hands and the electrical reaction show only that the CaCC = AnCC. The claw like appearance of the left hand is still present, although less marked than upon the first examination. The sensations are only disturbed in the last phalanx of the index and middle fingers.

The interesting point about this case is not only the occurrence of the atrophy in the intrinsic muscles of the hands, but also the rapid improvement. This is in contradiction with the view of some authoritative writers, Gowers among others, who insist upon the extremely chronic course of the affection and the little tendency to recovery.

The occurrence of this form of atrophy raises a question of the pathogenesis of lead intoxication. As we have seen the amyotrophy in the present case, it is identical with that of the Aran Duchenne form of progressive muscular atrophy, in which the cells of the anterior cornua are involved. The majority of writers speak of changes in the peripheral nerves in lead poisoning, but there are cases carefully recorded, showing also involvement of the cells in the anterior cornua. Experimental studies on animals show a remarkable uniformity of changes in the cells of the anterior cornua in lead poisoning. There are also cases in which very little alteration, if any, was found in the peripheral nerves (see A. Gordon's Pathological Contribution, *American Medicine*, April 29, 1905). The present case showing at the onset an involvement of the peripheral nerves and later an amyotrophy similar to that of progressive muscular atrophy of spinal origin, is a clinical contribution to the effect of lead on the cells of the gray matter. Finally if we take into consideration the alteration of the bloodvessels found in every case of chronic lead poisoning, we must conclude that lead has no special predilection for special elements of the nervous tissue; while in some cases it affects primarily the cells; in others it involves the roots, and in still others the peripheral trunks or all the three portions simultaneously. Perhaps the *locus minoris resistentiæ* is a potent factor in localizing the deleterious effect of the poison in a given case.

The prominent features in the present case are: 1. The onset, viz., the mode of lead poisoning. 2. The localization of the affection. 3. The rapid improvement. 4. The pathogenesis.

NORTHEAST CORNER OF ELEVENTH AND PINE STREETS.

FRONTAL SINUSITIS AS AN ÆTIOLOGICAL FACTOR IN ACUTE RETROBULBAR NEURITIS. REPORT OF A CASE.

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The recent writers on ocular affections resulting from disease of the accessory sinuses have shown conclusively that almost any pathological ocular condition may result from a diseased sinus; but in none of the cases reported that I have been able to find has the frontal sinus been designated as the ætiological factor in retrobulbar neuritis. The majority of the reported cases give the ethmoidal or sphenoidal sinuses or the antrum of Highmore as the source of trouble.

Dr. Posey (1) mentions in his "group 1" "that diseases of the ethmoidal, sphenoidal, and antral cavities may be evidenced by a moderate

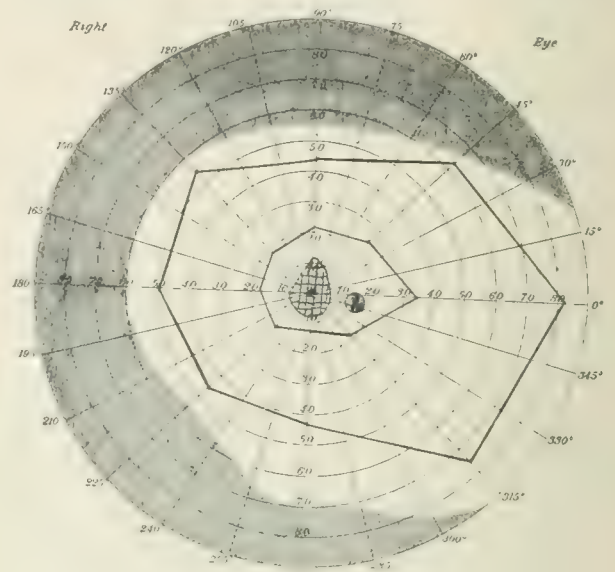


FIG. 1.—Form and red fields, V = +6/1x, August 25th.

stasis in the circulation of the optic nerve as indicated by slight ophthalmoscopic changes and by an interference with vision."

Dr. H. M. Fish (2), now of New York, has reported several very interesting and instructive cases of various ocular conditions as the result of frontal sinusitis, and it is owing to his personal assistance in establishing a diagnosis that I am able to report this case.

REPORT OF CASE.—E. T. R., age thirty-seven, architect, consulted the writer August 24, 1905, complaining of blurring after short time of close use of his eyes. No headaches, said vision in distance was good; was wearing O² + .50 D. with weak prism base in either eye for two months, which had given relief at first. V. O. D. — 6/viii, V. O. S. 6/vi. The phorometer showed 3.5° exophoria at 6 m. and 16° exophoria at 30 cm., dot test; with the red glass before O. D. heteronymous diplopia remaining so; with red glass before O. S. heteronymous diplopia at first, followed by fusion. Adduction 14°, abduction 9°, convergence to 15 cm.; eyes out under cover. Can only overcome prism 11° base out with light at 6 m. Thinking the case one of muscle insufficiency, directed him to report

the next day to determine the insufficiency in the morning when the eyes were not tired.

August 25th. V. O. D. reduced to + 6/lx. No improvement with lenses. Visual field 10 mm., form field good; 5 mm. red field contracted, and small relative central scotoma (see Fig. 1). No specific history could be elicited, passed a life insurance examination one year ago, had gonorrhœa many years ago. Takes an

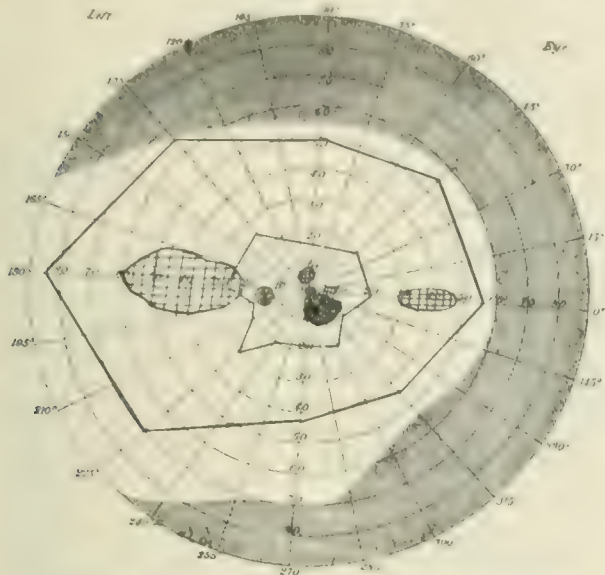


FIG. 2.—Form and red fields, V = -6/viii, August 27th.

occasional drink, and once in a while has a little spree, is quite a steady smoker. The pupils react perfectly to light and accommodation. Ophthalmoscopic examination is negative. As he had to continue work I placed the right eye under atropine. Specimen of urine was found to be normal.

That evening I went to Chicago to meet Dr. H. M. Fish, who has been actively engaged in the study of the frontal sinusitis and its relation to ocular disease. In the course of the evening I referred to this case and how it puzzled me. He suggested an examination of the nose and if a middle turbinate was found in a boggy, turged, swollen, slimy condition, to wire him, he would then come to Milwaukee, as that was the sort of a case he was looking for.

August 26th. On examination of the nose on right side I discovered a middle turbinate, especially the anterior portion of which was very much enlarged, turged, and boggy, also considerable hypertrophy of the inferior turbinate. On the left side there was considerable hypertrophy of the inferior turbinate, and some enlargement and boggy of the middle. There was no discharge from either nostril. On further inquiry into the history it was found that a cold in the head was a quite frequent occurrence and usually manifested itself by a fullness over the eyes and base of nose and frontal headache. The engorged turbinates were shrunk with suprarenalin one to one thousand and cocaine 4 per cent. Examination of sinuses and antrum by transillumination gave negative result.

August 27th. Dr. Fish came in response to a telegram, and on examination verified the condition described above V. O. D. 6/lx, V. O. S. - 6/vi. It was decided to remove the anterior portion of the right middle turbinate, as it was diseased, and the sinus could not be easily probed. Dr. Fish did this with the Krause snare. It was greatly hypertrophied, especially the bony structure; had a large sigmoid shaped beak;

and contained several pneumatic cells. The frontal sinus was then easily probed.

August 28th. There was no reaction from operation, and patient said that his vision was a little better in right eye, but worse in left eye. V. O. D. + 6/lx, V. O. S. - 6/viii. Visual field O. S. with 5 mm. red object shows contracted field, with small absolute scotoma and two small relative scotomata (Fig. 2). V. F. O. D. showed a very small central absolute scotoma, with reduction in size of relative scotoma and increase in size of red field. Atropine stopped in the right eye, pupil not dilated ad maximum. Right frontal sinus probed, and left inferior and middle turbinate shrunk with suprarenalin and cocaine.

August 29th. V. O. D. 6/xxxvi, V. O. S. 6/lx. Vision in O. S. much deteriorated. Right side of nose only cleansed and suprarenalin applied. Left frontal sinus probed.

August 30th. V. O. D. 6/xxiv, V. O. S. 6/lx. Both sinuses probed.

August 31st. V. O. D. 6/xii, V. O. S. 6/xxiv. There has been no near point for O. S. for two days. Reads D. = 4, with O. D. at 30 cm. Had heavy full feeling between eyebrows after probing the preceding day; removed several pieces of polypoid tissue from middle nasal fossa; left side.

September 1st. V. O. D. + 6/xii, V. O. S. 6/xxiv. Probed each sinus. O. D. visual field for red, 5 mm. object, much larger, with small relative central scotoma and one at nasal periphery (Fig. 3).

September 2nd. V. O. D. - 6/viii, V. O. S. 6/xxiv. With O. D. reads D. = 1 at 20 to 35 cm. Visual field of O. S. shows small central relative scotomata and larger one at temporal periphery, with red 5 mm. object (Fig. 4). Shrunk middle turbinal on each side.

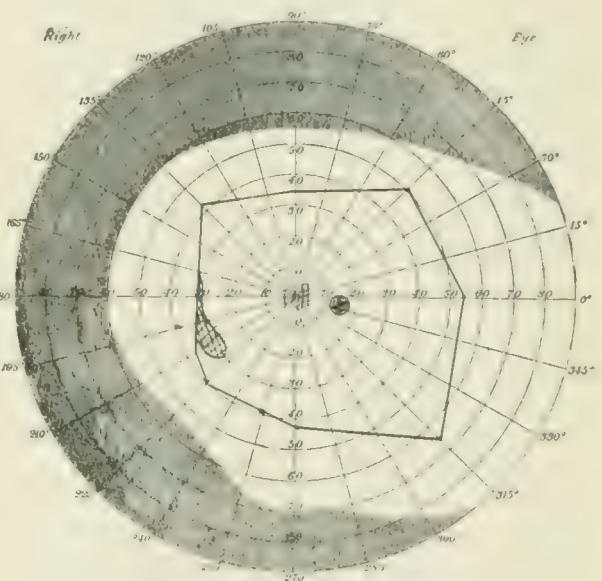


FIG. 3.—Field for red, V = -6/viii, September 1st.

September 4th. V. O. D. 6/viii, V. O. S. 6/xii. Reads D. = 2 at 18 to 23 cm. O². Probed both sinuses.

September 5th. V. O. D. + 6/viii, V. O. S. + 6/xii.

September 10th. V. O. D. - 6/vi, V. O. S. 6/viii.

September 18th. V. O. D. 6/vi, V. O. S. 6/vi, calls o, c, and Fig. 7, T. No scotomata in visual field and accommodation normal. One degree exo. at 6 cm. and 12° exo. at 30 cm., adduction 26°, abduction 10°. Placed on Gould's exercise 15° base out before each eye. Patient commenced work.

September 30th. V. O. D., slightly less than V. O. S.,

with small relative scotomata up and out in visual field; probed both sinuses and advised to stop smoking.

October 1st. Patient has a cold in head, and noticed his vision in the right eye becoming dim. Visual field shows small relative scotomata in upper part of field, and some contraction with red 5 mm. object V. O² + 6/vi.

October 5th. V. O. D. + 6/vi, V. O. S. 6/vi. Sev-

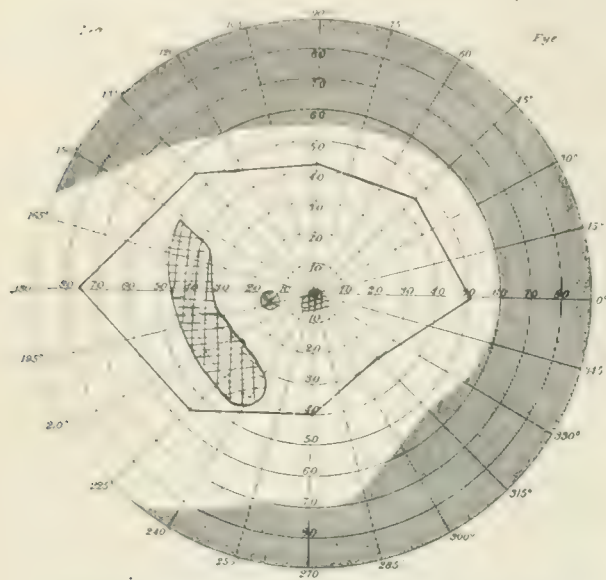


FIG. 4.—Field for red, V = 6 xxiv, September 2d.

eral absolute scotomata in lower part of field and relative central scotomata in O. D. (Fig. 5).

October 7th. V. O. D. 6/v, V. O. S. 6/vi. Accommodation normal, absolute scotomata in different position O. D. and slight relative scotoma (Fig. 6). Absolute scotoma O. S. (Fig. 7). Probed each sinus.

October 13th. V. O. D. 6/vi. No scotomata V. O. S. 6/lx. Scotoma in same position; accommodation lost. Continued probing sinus on left side every alternate day.

October 15th. V. O. D. 6/vi, V. O. S. 6/xviii.

October 25th. V. O. D. + 6/vi, V. O. S. 6/vi. Mistakes 7 for T.

October 28th. V. O. S. 6/vi slow. Visual field for red 5 mm. object, normal. Has been working all the time through this last attack. Throughout the entire case the ophthalmoscopic findings with reflected light were negative; with the electric ophthalmoscope about the macular region in each eye were a number of groups of minute white spots, which seemed to shift position from day to day, and as the vision became normal disappeared entirely. Muscular balance was perfect.

It is quite possible that some of the other sinuses were involved, but there was no evidence of this, and treatment was directed only toward the frontal sinuses. The second attack was attended with fullness in the region of the frontal sinuses, which disappeared as the condition improved.

There are several points in this report to which particular attention is called.

1. The sudden and marked loss of vision, with negative ophthalmoscopic findings. 2. The rapid return to normal on the operated side. 3. The effect on the extrinsic and intrinsic ocular muscles. 4. The effect on the visual field. 5. The absolute absence of any symptoms that would

attract one's attention to the nose, especially as a source of the trouble.

The sudden loss of vision with negative ophthalmoscopic findings would certainly indicate that the case was one of acute retrobulbar neuritis. Fuchs (3) states:

The acute form of retrobulbar neuritis is characterized by the suddenness with which the disturbance of vision develops. In severe cases this failure of sight may attain such a degree within a few days that all perception of light is abolished. Externally, the diseased eye looks normal; at most, the pupil is dilated. The ophthalmoscope, too, shows scarcely anything besides some distention of the retinal vessels, also that the most frequent cause of acute retrobulbar neuritis is great chilling of the body. Hence, a violent coryza is sometimes found either with the neuritis or as its precursor.

Posey (4), under the heading of Disturbances of Vision and the Visual Field, states that:

While there is evidence that in a very few cases of nasal and sinus disease vision may be affected, and may, for a time, be absolutely suspended, purely by reflex irritation, without anatomical cause, the clinician should be slow to attribute the blindness in such cases to a reflex, and should first carefully exclude hysteria and the possibility of the existence of retrobulbar involvement of the nerve without ophthalmoscopic signs.

The rapid return of vision to normal on the operated side would indicate that the procedure allowing the best and quickest drainage of the sinus affected brings about the quickest return to normal.

The disturbed condition of the extrinsic and intrinsic ocular muscles and visual fields shows

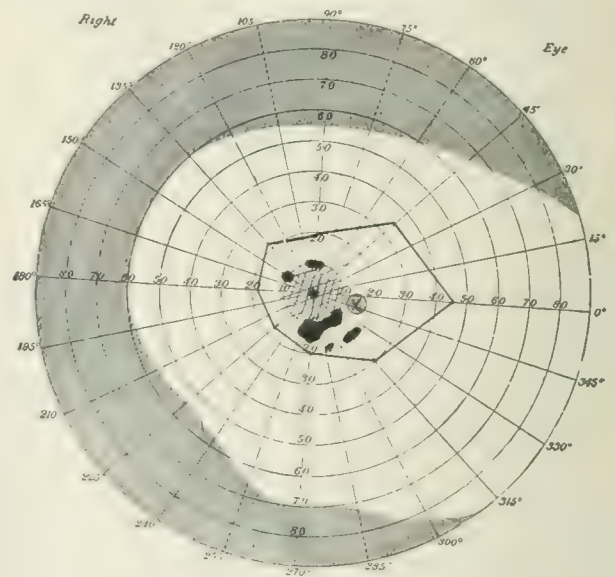


FIG. 5.—Field for red, V = 6/vi, October 5th.

how far reaching the effects of a sinusitis, even if apparently mild in type, may be. Again, quoting Posey (1), whose observation under the heading of Affections of the Extraocular Muscles certainly fits this case:

While complete paralysis demands an inflammatory process of considerable intensity, and is usually occasioned by a cellulitis of the apex of the orbit, second-

ary to either an active sphenoiditis or ethmoiditis, or more rarely to antral disease, parietic conditions of the muscles may complicate comparatively mild cases of sinusitis, and may occur when the rhinological examination reveals only a congestion of the mucous membrane lining the cavity.

Fish (5) refers to the effect on the intrinsic muscles under the heading of Hysterical Asthenopia as follows:

A latent frontal sinusitis nearly invariably affects accommodation in some cases, even with normal near point, doing away with the power to maintain prolonged accommodation; in others reducing the range of accommodation to one half, one third, and even one quarter the normal.

Regarding the contracted visual fields, Fish (5) says:

It is often present in affection of the accessory sinuses. Berger was the first to describe it in disease of the nasal fossæ; since then it has been reported in involvement of the pneumatic cavities by Kuhnt, Leber, Hajek, and others. Ziem found concentric contraction nearly always present in diseases of the sinuses. Grunwald, however, did not find it, though often sought for, but his cases are nearly all more or less open cases, that is, there is some nasal flow, and I find that, as a rule, it is only in the closed cases that there are any marked eye symptoms.

Posey (1) reports two cases (Cases VI and VII) under Group I, which are examples of a retrobulbar inflammation of the nerve in which the vision was reduced and scotomata were found. These cases, however, were due to sphenoiditis, at least in Case VI, a rhinologist de-

retrobulbar neuritis or other eye diseases have been repeatedly subjected to a nasal examination by good rhinologists, and no evidence of a sinus involvement discovered, the finding being negative, let me add, and emphasize the fact that I have had several cases, some reported, where there was no nasal discharge and the nasal examination was absolutely negative, save for a slight hyperæmia, and these cases were not suspected

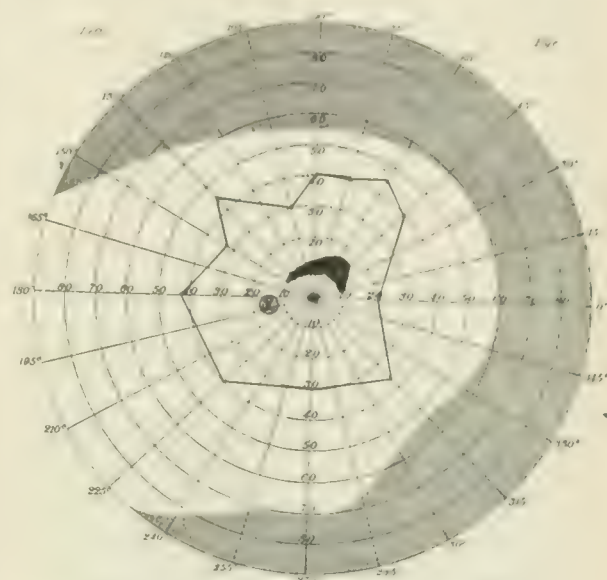


FIG. 7.—Field for red, $V = 6/vi$, October 7th.

or probable cases of sinusitis, but ones in which I relieved the symptoms by simply draining the sinus.

Posey (1) says:

Ophthalmologists forget, or are unaware, that a very active sinusitis may exist without nasal discharge, either by reason of retention of the pus in the cavity of the sinus, or from the simple congestive nature of the inflammatory process, and do not seem to appreciate that a sinusitis of intense activity may be present without creating any subjective nasal sensations whatever. In fact, Dr. Packard's report of the nasal findings in Posey's Case II states "the discharge is catarrhal in character and not purulent," and in Case IV, that "the condition is purely catarrhal."

In my case there were none of the typical symptoms of frontal sinusitis present, still the case progressed to recovery and quite rapidly under no other treatment than that outlined. Could so great an involvement clear up so rapidly under this treatment if another factor had been the cause?

Bibliography.

1. Posey, W. C. Some Ophthalmological Phases of the Diseases of the Accessory Sinuses of the Nose, *Journal of Eye, Ear, and Throat Diseases*, March and April, 1905.
2. Fish, H. M. Some Cases of Uveitis Due to Accessory Sinus Disease. *American Journal of Ophthalmology*, December, 1904. Zur Kenntniss des Zusammenhanges zwischen Erkrankungen der Nasennebenhöhlen und inneren Augenerkrankungen. *Archiv für Augenheilkunde*, lii, 3.
3. Fuchs, E. *Textbook of Ophthalmology*, Second American Edition, page 488.
4. Posey, W. C. The Ocular Symptoms of Affections of the Accessory Sinuses of the Nose. *Transactions of the Section on Ophthalmology*, 1905.
5. Fish, H. M. Hysterical Asthenopia, *Ophthalmology*, October, 1904.
6. Fish, H. M. A Case of Retinal Detachment that Yielded Immediately to Treatment, *Ophthalmic Record*, June, 1904.

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FIG. 6.—Field for red, $V = 6/v$, October 7th.

tected an engorgement of the nasal mucous membrane in the neighborhood of the sphenoidal sinus. The condition cleared up shortly under appropriate treatment to the nose. The second case Posey classes as due to "an actual inflammation of the sinus," not indicating which.

Referring to the absence of any symptoms that would suggest the nose as the source of trouble, Fish (6) states:

Furthermore, lest it be said in contra that cases of

PUERPERAL ECLAMPSIA, WITH REPORT OF A CASE.*

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I desire to present for your consideration this evening the subject of puerperal eclampsia, and as a preface to my remarks I take pleasure in reporting a case in which rapid delivery of twin babies resulted in the ultimate recovery of both mother and children.

For the history of the patient and the clinical notes I am indebted to Dr. Jarecki, chief resident physician of the Jewish Hospital. The history follows:

CASE.—Patient, Mrs. Z.; white; American; housewife; age thirty-six years; residence, Germantown.

Family History: Father and mother are living and well. One cousin died of tuberculosis. There is no family history of cardiac, renal, pulmonary, or mental disease.

Personal History: Patient had measles and pneumonia in childhood, and diphtheria at the age of eighteen. Menstrual life began at the age of eleven, and has been regular and painless. She was married twelve years ago and has borne two children, the first being still born. The second child is living and well at the age of nine years. Both labors were severe, but instruments were not used.

Present Illness: The patient was admitted to the Jewish Hospital on November 12, 1905, with the following history: Severe headache, with a sudden attack of total blindness. She considered herself to be eight and a half months pregnant at this time, and her attending physician, fearing eclampsia, made an examination of the urine which he found to be free from albumin. Notwithstanding this she was seized with convulsions, and when seen by me had had four seizures and was unconscious. Her immediate removal to the hospital was at once advised and urged, and after consultation with her physician this was agreed to. She was admitted at 12:30 p. m., thirteen and a half hours after the onset of the blindness. At this time she was in an unconscious state and muttering incoherently. Her eyes were wide open and staring, and she had recurring attacks of convulsions. Her pulse on admission was 180, weak and irregular; respirations were 40; temperature 100.2°. The skin was hot and dry.

A vaginal examination was made and the os found to be dilated to the size of a dollar. The patient was at once anesthetized with chloroform and a rapid delivery of twin female babies effected at 3 a. m. The greatest care was taken during the operation to preserve an aseptic condition of the entire genital tract.

Upon her return to the ward patient was given veratrum viride m. vii hypodermically, and the dose repeated in half an hour. She was also given a compound enema of magnesium sulphate, glycerin, oil of turpentine, and water, which was at once expelled and was repeated in one hour, when a quantity of slimy, greenish fecal matter was expelled. She was given hypodermoclysis of 1,000 c.c. of normal salt solution and a hot pack for two hours, which started the perspiration freely. Four hours after delivery her pulse was stronger and of improved tension and her condition better in every way than on admission. She was again given hypodermoclysis of 1,500 c.c. of normal salt solution. After a total unconsciousness of seventy-two hours, her mental condition gradually improved. As soon as she could swallow, which was twenty-four hours from the onset of

the convulsions, she was placed on Basham's mixture with a free milk and water diet. For several days the pulse rate varied between 124 and 150, and the patient was restless and at times wildly delirious. The pulse rate declined until it reached the hundred mark and the temperature became normal on the fourth day after admission. Examination of the urine obtained by catheter upon admission showed that it was acid, and contained blood, pus, epithelium, and a great amount of albumin. There were present granular, hyaline, epithelial, and blood casts. The daily reports show a gradual decrease in the number of casts until they disappeared altogether six days after admission. On the 16th there was found to be present two grammes of albumin to the litre and from this time there was a progressively diminishing amount, until the patient's discharge from the hospital. At no time was there less than sixteen ounces of urine secreted in the twenty-four hours, and five days after admission the daily amount reached forty ounces.

Patient was discharged from the hospital in good condition on November 25, 1905, thirteen days after admission.

Some difficulty was encountered in the delivery of this patient. The os was dilated manually without trouble, but upon examination a foot was found presenting and not suspecting twin pregnancy I made traction, which proved to be ineffectual. A hand introduced into the uterus discovered that there were present four hands and four feet, and that the foot presenting belonged to the upper child. After carrying this foot up and out of the way the lower child was extracted by podalic version and the upper by podalic delivery. There were no lacerations, either of the cervix, vaginal vault, or perineum. The children were both females, the first weighing four and one half and the second three and one half pounds. Both were, and are, in good condition, and are normal in every way, excepting that the smaller had a double femoral and the larger an umbilical hernia.

REMARKS.—The statement of the physician attending the patient prior to my taking charge of the case that he had examined the urine at various times (the last examination having been made after the onset of the blindness) and that at all times he had found it free from albumin, raises the question as to the proportion of cases in which albumin is not present in the urine up to the onset of the eclamptic convulsion. If no error occurred either in the tests applied or by mixing of various specimens of urine the case is certainly unusual. Hirst declares that albumin is not present before the onset of convulsions in sixteen per cent. of the cases, but that it is invariably found after one or two convulsions have occurred.

Eclampsia may be defined "as an acute disease coming on during pregnancy, labor, or the puerperal state, and characterized by a series of tonic and chronic convulsions, affecting at first the voluntary muscles, and, finally, extending to the involuntary, accompanied by a complete loss of consciousness and ending by a period of coma or sleep, which may result in cure or death" (Charpentier). While usually termed "puerperal eclampsia," it is much more frequently a complication of the late months of pregnancy, or of labor, than of the puerperal state. Lusk says it occurs once in each five hundred pregnancies; Parvin gives the proportion as one to two hundred and fifty or three hundred pregnancies. Hirst says puerperal eclampsia occurs ten times

* Read before the Obstetrical Society of Philadelphia, February 1, 1906.

as frequently in multiple pregnancies as in single pregnancies.

The aetiology of eclampsia is an unsettled question, various theories having been advanced. The most commonly accepted belief is that eclampsia is due to the retention, within the body, of toxins normally excreted. Personally, I believe that faulty bowel elimination is very largely responsible.

The treatment of eclampsia is prophylactic and curative, and my belief is that, with proper prophylactic treatment, eclampsia may be avoided. I especially urge that the urine of pregnant women be examined monthly after the third month, and during the latter months of pregnancy weekly. If albumin is found my custom is to have the patient take a thorough vaginal douche and then pass urine for a second examination. If there is doubt as to whether this procedure is carefully carried out a specimen is obtained by the use of the catheter. In the examination of the urine the urea estimation is of the greatest value in determining the elimination power of the individual. The patient is placed on a milk diet and the bowels kept open freely two or three times daily by saline laxatives. I see that she has a moderate amount of outdoor exercise daily. The skin is kept active by woolen underclothing and by a warm bath for fifteen minutes each night just before retiring. The temperature of the bath should be between 95° and 100°, and the patient should get at once into bed after emerging from the bath, in order to avoid taking cold. Internally I give Basham's mixture in half ounce doses, every four hours.

Even when the symptoms are alarming, when there is intense headache, disturbance of vision, epigastric pain, high tension pulse, and albumin is abundant in the urine, the convulsions can usually be averted if the secretions be promptly established. In this condition I give a high enema at once to evacuate the lower bowel, and by the mouth, Epsom salts 3ii, hourly until there are, not two or three, but fifteen or twenty watery evacuations. This depletes not only the intestines, but the whole capillary system. If the skin is hot and dry, perspiration should be started by the hot pack. When eclampsia is actually present the uterus should be emptied as rapidly as possible for the sake of both mother and child. *Veratrum viride* I employ most cautiously. Morphine I do not use. While Butler and Potter assert that the sweat is increased by opium, all authorities (Hare, Stevens, Butler, Potter), agree that it checks all secretions excepting that of the skin. Morphine favors constipation; we want the bowels to act freely. Morphine diminishes the output of urine; we want to flush out the kidneys. Morphine may control the convulsions; we want to eliminate the accumulated toxins and cure the patient. Bleeding, may or may not, be indicated. In the case cited blood enough to fulfill this indication was lost in the emptying of the uterus. The giving of salt solution by hypodermoclysis dilutes the toxins and in conjunction with the hot pack starts elimination by the skin. Hypodermoclysis is preferred to intravenous injection, since by

this method absorption takes place naturally and slowly.

The mortality of eclampsia is high. The maternal mortality in nine lying-in hospitals in this country during five years was 38.4 per cent. Hirst places the general average at thirty per cent. The foetal mortality is thought to be fifty per cent. The prognosis, therefore, is most grave.

CONCLUSION.—Eclampsia is a disease of such grave import that it is ever to be feared; but it is of such infrequent occurrence that the general practitioner is not prone to be on the lookout for its forerunning symptoms. This is wrong from the standpoint of the patient's welfare. It is wrong also from the standpoint of the practitioner's pocketbook, for one neglected case will do much toward injuring his reputation as an obstetrician. Let me urge again the importance of the careful routine examination of the urine from the third month of pregnancy, for in the presence or absence of albumin we have the best single guide to the condition of the patient. The free evacuation of the bowels daily is perhaps almost as important.

CHEW AND PENN STREETS.

DIAGNOSIS OF TABES IN THE PRE-ATAXIC STAGE.

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Viewed from the standpoint of either patient or physician, the preataxic stage of tabes dorsalis is the all important one. After the disease has progressed far enough to develop ataxia, the diagnosis presents little difficulty and is of small value to the patient, while in the last, or paralytic, stage it is absolutely worthless. Whatever can be done toward arresting the progress of the disease must necessarily be accomplished during the first stage. Hence, it is of vast importance that the group of symptoms indicating this degenerative process should receive early recognition.

Other symptoms being present, the age of the patient is a diagnostic factor. Tabes usually begins between the ages of twenty-five and fifty—the most common period for luetic infection. When children present this disease it is because of hereditary syphilis.

The most common symptom presented during the preataxic stage, and one that comes quite early, is loss of the patellar reflex. My own experience, while perhaps rather limited, coincides with that of other observers in that abolition of the knee jerk is one of the earliest and one of the most constant signs. However, every known means of reinforcement should be practised before it is finally decided that the reflex arc is broken, as I am firmly convinced that it is never absolutely absent in health, although it may be in other diseases than locomotor ataxia. This sign alone, while of course not sufficient for diagnosis, should arouse suspicion and cause a most rigid investigation for more evidence.

Hardly less constant are the lancinating pains

shown to be due to this trouble by their character and distribution. They are present in about eighty per cent. of all cases. The patient describes them as lightninglike, quick, sharp, and distressing. They are momentary, appear in unexpected spots, and are distributed, not to any special set of nerves, but to those regions controlled by certain spinal segments. They appear at irregular intervals, and the patient may be free of them for days, weeks, or even months. The legs and trunk are most frequently affected. This symptom when found in connection with abolished knee jerk is presumptive evidence of tabes, which presumption is strengthened by the presence of the Argyll Robertson pupil—a pupil that is irresponsive to light, but not so to convergence, and accommodation is sometimes the earliest symptom of locomotor ataxia, but is not so constant. I know of only two other conditions in which this sign is present—paresis and syphilis, acquired or congenital, and, taken with one of the other two symptoms mentioned, renders a positive diagnosis possible. Moreover, it may be the only sign present, and even then an almost positive opinion may be given in the absence of evidence of other diseases.

The preceding three symptoms belong to the earlier period of the attack, and one or more are present in a large majority of the cases. Along toward the latter part of the preataxic stage appears another symptom, static ataxia, or the Romberg sign. The patient sways when attempting to stand with eyes closed. It can be demonstrated more forcibly, perhaps, by having the patient assume an erect posture after stooping, while keeping the eyes closed.

In regard to the pain sense, I quote a paragraph from Mettler:

"Oppenheimer regards analgesia, with or without impaired sensibility, as one of the four cardinal symptoms of the first stage. There is no question that disturbances of the pain sense, temperature and muscular senses, may all appear early and prominently. In the order of their frequency these sensory phenomena appear about as follows: Various paræsthesiæ and numbness, girdle sensation, anæsthesia and analgesia, loss of muscular sense. Various combinations, however, are exhibited by different patients of anæsthesia, analgesia, hyperæsthesia, hypalgesia, hypoæsthesia, hyperalgesia, and retardation of the sense of touch, pain, and temperature."

Passing over the virile, bladder, and rectal symptoms as mere incidents in the course of the disease, I will take up one more condition: Nerve atrophy.

This symptom is probably more common than statistics would indicate, and is sometimes the earliest sign. It may appear years before the ataxia, and can often be detected long before the vision begins to fail. When suspicion is aroused the eye fundus should be carefully examined, and if optic nerve atrophy is present, this fact should be given considerable weight in arriving at a diagnosis. Blindness usually supervenes in about three years.

In closing, I wish to make a special plea for careful and accurate observation and a thorough sifting of all evidence in every case of suspected tabes. A hasty opinion should not be given, leaving in its train, as it does, unnecessary mental suffering, if the diagnostician should be mistaken in assuming the disease to be present, and, on the other hand, losing valuable time if he should err in the other direction.

FIRST AND ROBINSON STREETS.

Our Readers' Discussions.

A SERIES OF PRIZE ESSAYS.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

L.—What is the best form of shack or tent for tuberculous persons? (Closed May 15, 1906.)

LI.—How do you treat prolapse of the umbilical cord? (Answers due not later than June 15, 1906.)

LII.—How do you treat hemicrania? (Answers due not later than July 16, 1906.)

Whoever answers one of these questions in the manner most satisfactory to the editors and their advisors will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable, no one answer to contain more than six hundred words.

All persons will be entitled to compete under the regulations laid down by the postal authorities. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL.

The prize of \$25 for the best essay submitted in answer to question XLIX has been awarded to Dr. Raphael O. Semmes, of Camden, Ala., whose article appeared on page 1026.

PRIZE QUESTION NO. XLIX.

THE TREATMENT OF LUMBAGO.

(Concluded from page 1084.)

Dr. Henry D. Frauenthal, of New York, writes:

Lumbago is regarded as the acute, subacute, and chronic myalgia of the lumbar muscles. It is generally the result of cold or exposure, or due to some bacteria (generally the diplococcus rheumaticus), or toxine carried through the system by the lymph or blood channels. It is frequently found in persons suffering from fermentative indigestion. The condition is not an inflammation of the muscular tissue, but of the fibrous element of the lumbar muscle, and starts as a fibrositis at the insertion of the muscle at the sacroilia joint and spreads along the tendinous attachment and over the fibrous sheath covering the surface of the muscle.

Lumbago must be differentiated from the following allied conditions (which are often mistaken for it): 1st. Sacroiliac disease, resulting from lifting or twisting in laborers or others, called a kink in the back, and in women following confinement, owing to the displacement of the articular surfaces due to relaxed ligaments. Both conditions are much more frequent than is generally supposed, as there is no doubt movement in the sacroiliac articulation during life; also synovitis of various infectious origin at the sacroiliac articulation. 2d. Lumbar spondylitis, either tuberculous or typhoid, with rigidity, dull pains, and sometimes deformity. Syphilis and gonorrhœa, with rigidity, dull or acute, with pain and no deformity. Arthritis and pararthritides. 3d. Calculus of kidney, or ureter. 4. Malignant growth of the sacrum ilium, or lumbar spine. 5. Chronic pain in the back, due to uterine displacement, diseases of the ovaries, diseases of the testicle, excessive

venery ulcer and cancer of the rectum, hæmorrhoids, and finally hysteria.

DIET.—The avoidance of sweets, potatoes, starch substances, and malt liquors, etc., should be enjoined, to prevent acid fermentation. It is the opinion of the author that the so called rheumatic and gouty muscular neuralgic conditions are the results of: 1. Too much food in general (pains of the rich; 2, too much of one kind of food (pains of the poor), and, 3, some congenital defect, in the function of digestion to digest certain kinds of food.

Thus, there results an imperfect product of digestion which is not assimilable, and in such a state that it is difficult to excrete, but remains a deposit in the tissues and sets up a subacute or acute inflammation, nature's method aiming at elimination. This condition is the result of suboxidation of foods or the imperfect action of digestion ferments. Many other forms of so called rheumatic condition are found to be due to bacterial infection.

TREATMENT.—This must depend on whether the patient is confined to bed or can be attended at his physician's office, where electricity, vibration, and other special treatment can be given.

As to the administration of drugs internally, I use for immediate relief of the acute, intense pain a hypodermic injection of morphine sulphate; $\frac{1}{8}$ to $\frac{3}{8}$ grain is accepted as the remedy par excellence. Alkalines and antiseptics are useful for cases due to acid fermentations indigestion. Sodium, potassium, and strontium iodide are particularly efficient in absorbing the serous exudate in lumbago fibrositis.

Salicylic acid and colchicum aid the recovery when given internally. For external applications I advise counter irritations by the actual cautery; mustard, etc., is useful in relieving pain. 1. Hot air bath by a baker or a turkish bath; 2, dry heat by means of hot plates or flat irons, etc., and, 3, hot packs. All hasten recovery and relieve pain. Local massage is often of great value in most cases of fibrositis after the acute state is passed; patient must be treated gently at first; later more vigorous treatment may be employed to aid in the absorption of the fibrous induration and to overcome the local stiffness. Mechanical vibration can in a great measure substitute for massage. Acupuncture in some hands yields brilliant results by inserting steel needles, about three inches long, in the lumber muscles, and allowing them to remain five to ten minutes. Of electricity, the galvanic, faradic, static, and high frequency currents relieve the pains in various degrees. The following method was used by the author in ninety-three cases in the last three years (seven of the patients being physicians), with unusual prompt relief and cure:

1st. The area is covered with tincture of iodine, and the galvanic current applied to produce cathaphoresis for a period of five minutes; 2d, then the area is again covered with oil of gautheria, and the high frequency current is applied for fifteen minutes, and later the vacuum tube is held at a distance of about one fourth of an inch, to produce irritation, for two or three minutes. This treatment will give absolute relief to patients almost helpless from pain. Persons who were helped into the office in excruciating pain have walked out feeling almost free from their suffering.

Dr. William Gunn, of Clinton, Ontario, says:

Lumbago and similar muscular affections, as torticollis, pleurodynia, etc., are included in the term myalgia. As myalgia may involve any voluntary as well as some of the involuntary muscles, the disease must be borne in mind in making a systematic diagnosis of almost every painful affection. As to the symptom, pain in the loin, it is regarded by the gynecologist and neurologist as well as the orthopaedic, rectal, and genitourinary surgeon as a finger pointing to almost every disease in their respective domains. Pain in the loin, too, may have relation to specific fevers and febrile conditions, or debility from any cause, and in the form of lumbago it is considered by some as rheumatic in character.

Hence, in the diagnosis and treatment of lumbago, the general practitioner, being a specialist in everything medical, will have regard to all disorders, reflex, nutritive, etc., having a bearing on the case, and with his local treatment, according to indications, will prescribe laxatives, quinine, Dover's powder, antirheumatics, iodides, iron, cod liver oil, phosphates, rest or exercise, diet, massage, baths, climate, electricity, etc.

Acute lumbago with its sudden onset of pain, increased by exertion, with little or no fever, and associated with stooping, lifting, chilling, etc., is fairly characteristic, but the diagnosis of chronic lumbago is often more difficult. Its treatment must have regard with other things to prophylaxis, the circumstances and cooperation of the patient, and also the facilities of the physician.

The writer's sole excuse for this article is to bring to notice a remedy which he has been testing for six years, and one which he considers almost a specific in every stage of lumbago, acute, subacute, and chronic. One treatment is usually sufficient, and no rest from occupation is required.

Wash the back thoroughly and inject from four to twelve ounces of warm, sterile water or normal salt solution, deeply into the loin muscles, in one or more places. A previous hypodermic injection of one eighth grain morphine and one fourth grain cocaine to two drachms of water, distributed at the seats of puncture renders the treatment almost painless. A Higgins' syringe, with one or more small needles attached, answers for the purpose. Air should be excluded. After the aqueous injection massage gently for a few minutes. The action of the remedy is probably due to the stretching of tissues, and especially the sensory nerves, or to the dilution and absorption of morbid products, thereby promoting circulation and nutrition. If a slight digression is permissible the writer would confidently recommend the same treatment in every accessible myalgia and neuralgia, including sciatica, and tic douloureux, and in pruritus ani and vulvæ, etc.

The following methods may be used with benefit:

(a) For severe cases, patient should be put to bed; dry cup, and redden with mustard, etc., to be followed with hot fomentations for an hour or two; then a snugly fitting bandage should be applied over a good pad of wool. Liniments and massage, or hot fomentations, may be used at intervals, if necessary. (b) For cases having to work, dry cup, redden with chloroform; belladonna plaster (6 by 8) should be applied, and over and beyond this two layers of

adhesive plaster, in over lapping strips, cut about two and one half to three inches by ten to fourteen inches.

When the occupation requires much stooping a thick flannel or a leather bandage, fastened to the band of the drawers, and snugly applied, may replace the adhesive plaster. This promotes circulation, is sedative, and gives agreeable warmth and support. When plasters are not employed liniments and massage, or dry cuppings, or electricity, may be used at intervals with advantage. Puncture or wet cupping is quite as severe as the aqueous injection and not nearly so efficient.

A hypodermic injection of morphine, followed by a laxative, should be given in any case when the pain is severe. Internal remedies and general treatment are already indicated.

Dr. Charles T. Crance, of North Tonawanda, N. Y., remarks:

In the treatment of lumbago a positive diagnosis is necessary. Upon examination the following must be eliminated: Pott's disease, renal calculus, perinephritis, and uterine or ovarian disease.

In order to successfully treat this condition the cause must be considered. The liquids of the body contain so large a quantity of toxic materials, produced by perverted metabolism, that when they are exposed to cold, or if the resistance of the tissues are lowered by any abnormal influence, precipitation of these toxic products takes place, either in a crystalline or amorphous form of uric acid and urates, irritating more or less the sensory nerve ending in the lumbar muscles, or vertebral articulations, causing stiffness and pain.

If the case is seen at the onset when the pain is severe a hypodermic injection of morphine sulphate, 0.25 grain, with 8 c.c. of warm sterilized water, deep into the lumbar tissues, may be given; by this is obtained the combined action of the morphine and the hot water injection into the muscle. Then the excretory functions should be stimulated by the use of calomel, 0.1 grain every one half hour until ten doses have been given, followed by a saturated solution of epsom salts. Sodium salicylate is the drug par excellence; it is best given in doses of from one to two grammes, in the form of wafers or in black coffee, without sugar, every four hours. Of recent years acetylsalicylic acid has given brilliant results, administered in capsules or wafers of one gramme each every four hours.

Often great relief is obtained by sweating—a Turkish bath, a hot wet pack, or a vapor bath. Their use requires caution when the patient is corpulent and has a tendency to congestion or heart failure. Heat should also be applied over the lumbar region. A good method is to lay a towel over the skin, and gently iron it with a flat iron as hot as can be borne.

Massage is particularly valuable. It is not infrequently the case that a single properly conducted massage will cause violent lumbago to disappear almost completely. The massage should be done vigorously, with considerable pressure of the hand over the vertebræ and sacroiliac articulations. Most of the external applications which are so frequently prescribed, such as spirits of camphor or chloroform liniment, accomplish less through the cutaneous ir-

ritation they produce than by the massage incident to their employment.

Acupuncture, thrusting long sterilized needles into the muscles of the back and allowing them to remain for five or ten minutes, is highly recommended, but often fails.

The patient should be instructed to drink water freely and limit himself to a liquid or soft diet.

In conclusion, we may sum up the treatment as follows: 1. Relieve pain at the onset with morphine; 2. Stimulate excretory functions by the use of calomel and epsom salts; 3. Neutralize acidity of the blood by sodium salicylate or acetylsalicylic acid; 4. Remove toxic products by sweating, heat applied locally, and massage.

Dr. J. Haven Ross, of Cato, N. Y., notes:

The name of lumbago has been loosely applied, to various pains and discomforts confined to the lumbar region, and has the prestige of long use. Mentally, I only associate the name with a condition known as "muscular rheumatism" or "fibrositis," affecting the muscles and their nerve supply, of the lower, or lumbar, portion of the back. The affection may vary from a slight soreness and discomfort to absolute tonic, painful spasm of some, or all, of the lumbar muscles.

My treatment, almost always very satisfactory, is practically the same in all cases that I class as lumbago. These patients invariably exhibit a state of malmetabolism in some degree, which I have described as the "gouty rheumatic." Omitting any discussion as to ætiology, pathology, etc., my treatment is as follows: I find the cause and remove it, if possible, then the procedure is: 1. Hygienic; 2, dietetic; 3, therapeutic, (a) internal, (b) external.

1. Hygienic: The patient should avoid getting damp or wet, especially the feet and shoulders. If wet he should change to dry clothing throughout as soon as possible, preceded by a warm dry rub, or bath, irrespective of weather conditions. He should avoid lifting and excessive exertion. In addition, I advise the observance of ordinary hygienic rules.

2. Dietetic: The diet need not be greatly restricted, but during treatment I forbid pork in any form, or any food cooked with, or in, pork fat or lard. No white potatoes are allowed until recovery, and all sweets are restricted in amount as seems proper for each patient. These simple rules of diet are irksome to none.

3. Therapeutic (a. internal): Any gastric or intestinal irregularity must be corrected, and the liver gently stimulated. It should be an axiom with all physicians, that the hepatic circle must be trued in every case of disease, grave or simple, to achieve the best therapeutic results. For the purpose, and for any degree of constipation, a combination of fluid extract of euonymus, resin of podophyllum, calomel, aloin, and powdered ipecac, in varying dose, to suit the patient in hand, is best. These act well through the liver, and also directly on the stomach.

Now as to specific medication, I rely on what I call my "G. R. salts," and they have very seldom failed me in many cases of lumbago, since I adopted their use twelve or more years ago. I direct a careful compounding of the several salts, as follows:

R Sodii phosph.,gr. $\frac{1}{8}$;
 Sodii carb.,gr. $\frac{1}{4}$;
 Sodii sulph.,gr. $\frac{1}{2}$;
 Sodii chlorid.,gr. x;
 Magnesi phosph.,gr. $\frac{1}{4}$.
 Ft. one dose.

Given in one half a glass, or more, of water fifteen to thirty minutes before meals, and in some instances at bedtime. I prefer to use the salts in a watery, shake mixture (part of salts insoluble), whereof one fluid drachm represents the above dose. This is the greatest strength that I use. To reduce the dose I increase the proportion of water. An important point in its exhibition is to direct that this dose, in whatever form used, shall be stirred into at least one half a glass of water and taken at a draught on an empty stomach. Thus the taste is only salty, and it never disagrees—in fact, it has an excellent local effect in the stomachs of these patients. Soft or distilled water should be used in the mixture if dispensed in watery form.

Space forbids any attempt at "whys" and "wherefores," but it does the work, and, after all, that is the important consideration. For those rare cases of intensely painful muscular spasm which prevents all body movement, I inject deeply into the affected muscle masses on both sides of the spine, maximum, safe doses of strychnine nitrate, and proceed with above medication. (b. External.) I direct the patient to use some covering that will maintain warmth at even temperature. Any simple placebo liniment is allowed, and often advised for the massage effect locally, and the mental effect generally. Massage intelligently applied is often useful when extreme tenderness is absent.

Dr. Charles A. Pratt, of Enosburg Falls, Vt., observes:

In writing this paper, I do not presume to give any new ideas, or claim any new discoveries, but I do it simply to give the profession my own personal experience with this disease in a number of cases that I have been called upon to treat; also with the hope that others may give this treatment a trial, with as satisfactory results as I have received and thus relieve a brother sufferer.

Ætiology. Lumbago is purely local and one of the most painful forms of myalgia. Attacking the muscles of the loins and their tendinous attachments, it may be of all grades of severity. It is apt to occur after exposure to cold and after overuse of the muscles, and will be found oftener in rheumatic and gouty people. One attack renders the patient much more susceptible.

Symptoms: Characteristic muscular pain referred to the loins, greatly increased by bending, straightening the back, or by turning in bed, and by tenderness of the muscles on pinching, without acute defined tenderness on pressure, as in abscess or neuralgia. At the same time it cannot be insisted upon too strongly that a careful examination of the back alone prevents the practitioner from falling into the not uncommon error of treating a serious disease for simple lumbago. The physician should examine the abdomen generally, and above all the heart and urine, and should bear in mind renal calculus, lumbar abscess connected with spinal caries, perinephritis, perityphlitis, abdominal aneu-

rysm, disease of the rectum, uterus, or bladder, and spinal meningitis.

Treatment: This resolves itself into two parts: 1. Prophylaxis, and, 2. relief from the attacks. To meet the first condition the patient must have ample clothing, wool or silk, and must avoid all exposure and over exertion. Keeping the feet dry is of the greatest importance; avoiding sweets, as frosted cakes, sugar, confectionery of all kinds.

2. The relief of the attack proper consists of a relief of the pain. This I do by applying heat to the part, if the attack is due to exposure. If from overuse of the muscles, I use the dry cups, as a rule, putting anywhere from ten to twenty, as the case requires. Acupuncture is, in acute cases, the most efficient treatment (Osler). Massage is of benefit, as is also electricity. Open the bowels with salines:

R Magnesi sulphatis,3iv.
 Sig. In a glass of warm water.

Then use for adults:

R Sodii salicylatis,grs. v.
 Sig.: One every four hours for the first twenty-four hours, then every six hours for twenty-four hours, then three times daily for the third twenty-four hours.

Most of the cases will be terminated in from twenty-four to seventy-two hours, and in no exception have there been recurrent attacks within two years.

Dr. Stewart Lee Jeffrey, of Yonkers, N. Y., states:

The treatment of lumbago may be divided into: Prophylaxis and the treatment of the attack.

Prophylaxis: In the cases of those persons who have evinced a tendency toward muscular rheumatism, particularly in the lumbar region, I advise: 1. Regular habits of bathing, a warm or tepid bath at night, a tepid or cool sponge or shower bath in the morning; 2. Light, but regular and systematic, exercise, such as walking, riding, dumbbells, chest weights, etc., according to age and condition; 3. Diet, plain, wholesome foods, being careful to avoid any excess in the nitrogenous elements; drinking of fairly large quantities of water, two glasses in the morning on arising, one at noon, one at 5 p.m., and at least two before retiring at night, with the usual quantities of fluids at meals; no alcoholic beverages, unless they be indicated for general tonic measures; 4. Dress, comfortable but not too heavy clothing; woolen underwear; in very severe weather some extra protection, as a warm abdominal band; 5. Avoidance, as far as possible, of exposure to cold and wet; if so exposed, to change to warm, dry clothing at the earliest possible moment; avoidance of sudden muscular effort; 6. Particularly if there be any inclination to constipation, chronic or periodical, the use of saline cathartics at regular intervals of a week, two weeks, or a month, as the case may demand.

The treatment of the attack may be divided into general, or constitutional, and local treatment. The constitutional treatment consists of: 1. Rest, in bed, if possible, even in the mildest cases. 2. Diet, in severe cases, milk, exclusively; in milder cases, milk, soups, toast or crackers until after the acute stage; water in large quantities, five pints at least, during the twenty-four hours. 3. Medication: At

the beginning of the attack a brisk purge calomel (gr. one fourth) ten doses, every half hour, followed in four to six hours by sal Rochelle, $\frac{3}{4}$ ss, in lukewarm water; then the saline cathartics in laxative doses during the attack; sodium salicylate, gr. x, every three or four hours. Another drug I have found useful in very severe cases is pilo carpine nitrate, or hydrochloride, given in doses large enough to produce profuse sweating.

The pyrexia accompanying lumbago is, as a rule, of such a grade as not to require active treatment.

Local treatment: During the acute stage, counter irritation by means of blisters, painting the skin with guaiacol, oil of wintergreen, or 25 per cent. alcoholic solution of menthol crystals. That the homely mustard plaster has its uses must not be forgotten. In severe cases I personally have seen more satisfaction and comfort to both physician and patient follow the use of the Paquelin cautery than any other procedure, but acupuncture and the deep injection of sterile water have proved their usefulness.

After the acute stage has passed, massage and potassium iodide, gr. x, three times daily, either alone or combined with the salicylate. The massage must be sufficiently strenuous to produce a temporary hyperæmia and thorough relaxation, but care must be taken to prevent bruising.

Therapeutical Notes.

Treatment of Papilloma of the Larynx.—W. Rostock (*Monatsschrift für Ohrenheilkunde*, 1905, part ii), in two cases of recurring papilloma after operation, obtained complete success by the use of arsenic alternating with potassium iodide. He advocated the internal treatment of such cases as a means of avoiding too frequent surgical interference.

Massage of the Tonsil for Acute Amygdalitis.—Molinie, of Marseilles, has suggested a new treatment for tonsillitis. It consists in introducing the physician's index finger into the widely opened mouth of the patient and making firm compression and massage from below upwards. In this way the concretions and septic products are squeezed out of the crypts, and perhaps a little blood flows. Although the plan is a little painful at the time, yet it gives great relief and shortens the course of the disease. In addition, applications are made of one per cent. solution of phenol in glycerin.

Ærial Disinfectants for Bronchitis and Tuberculosis.—René Couetoux recommends the following formula (*Bulletin général de thérapeutique*, April 15, 1906):

| | | |
|---|-------------------------|-------------|
| B | Lactic acid, | 10 grammes; |
| | Acetic acid, | 5 grammes; |
| | Benzoic acid, | 2.50; |
| | Liquified phenol, | 2.50; |
| | Alcohol, | 80. |

M.

This is to be used in pulmonary tuberculosis, bronchitis, bronchopneumonia, especially in children, by pouring a teaspoonful into a large iron spoon, which is taken to the middle of the room and there exposed to the flame of a lamp or candle until it has entirely vaporized. One or two

spoonfuls during the night will relieve cough and produce sleep.

Hypnotic Suggestion as a Means of Bringing on Labor.—Benjour, of Lausanne, reported to the Société d'hypnologie et de psychologie (*Le Progrès médical*, March 24, 1906) that he had observed that in cases where the patient can be hypnotized she will have her delivery on the day suggested, on condition that the day shall fall within the week previous to the date of full term, calculated by the usual method, and also determined by examination. The physician should not leave the woman before cervical dilatation actually commences. If there is not time to produce somnambulatory hypnosis, or the patient cannot be made to enter this condition, we can, still, without being sure of bringing on the accouchement on the suggested date, cause it to commence during the night, and have the delivery during the day following.

The Galvanic Current in Treating Constipation.—René Desplâts, in a communication to the Société des sciences médicales (*Journal des sciences médicales de Lille*, April 14, 1906), stated that he had successfully treated twenty-five cases of mucomembranous colitis and spasmodic constipation by electricity of high voltage. His method consists in placing two large metallic electrodes (tin plates, eight by ten centimetres) covered with several double folds of buckskin, moistened with warm water, upon the surface of the abdomen, one in each iliac fossa, and passing for ten minutes a current of sixty to seventy milliamperes, a little more or less, according to the tolerance of the patient. He also reverses the current at the end of each minute. If the sudden reversal causes too great a shock, he lowers the current even to zero before reversed. The resort to all purgative remedies is suspended during the treatment (which is repeated every two or three days), but if there is no spontaneous movement by the third day, he orders an enema, and this is gradually reduced. In atonic constipation the results were very satisfactory, even in children.

Hypertrophy with Dilatation of the Large Intestine.—M. P. Hilbert (*Heilkunde. Le Bulletin médical*, April 14, 1906) calls attention to the fact that Hirschsprung's disease, or hypertrophy with dilatation of the large intestine, while quite common in young children, is very rarely seen in subjects past fifteen years of age. However, he reports a typical case in a woman, sixty-six years old, in which the diagnosis was confirmed by an autopsy. This patient presented an enormous enlargement (ballooning) of the abdomen from distention of the bowels, which was attended by obstinate constipation. The rectum was found to be loaded with fæces, and the resort to lavage of the bowel gave some temporary relief. After several improvements and relapses, the patient died with exhaustion. At the autopsy, the large intestine was found to be hypertrophied and dilated throughout its entire extent, but without any trace of cicatricial stenosis or of new growth. The pathology in this case is obscure, and the relief from treatment was only temporary.

Zomotherapy in Tuberculosis.—Richet regards raw meat not merely as an aliment, or even a medicament, but really as a specific agent in the treatment of tuberculosis, provided that a sufficient quantity be used. For instance, a patient should take half an hour before each of the two principal meals, in a cup of bouillon, free from fat and almost cold, a dose of the scraped raw beef, the quantity varying from 150 to 400 grammes at each repast. In case of repugnance to the meat, we may substitute the juice of the muscular tissue, prepared as follows: Take from 0.5 to 3 kilogrammes of fresh beefsteak, deprived of fat and minced fine. Macerate this for two hours in one fifth of its weight of cold, boiled water; then place it in a muslin bag and submit it to pressure in a small meat press, increasing the force gradually every five minutes. In this way we obtain a quantity of juice equal to two fifths of the meat employed. To this a little salt may be added for adults, or a little syrup for infants. It should be prepared twice a day, because it does not keep well, especially in hot weather. It is to be given, as fresh as possible, half an hour before the meal. The administration either of raw meat or meat juice must be carefully supervised, and at once discontinued if digestive disorder or diarrhoea occurs.—*La Quinzaine thérapeutique*, April 10, 1906.

Treatment of Sciatica and Neuralgia by Subcutaneous Injections of Salt Solution.—P. E. Lannois (*Le Médecin praticien*, 1906, No. 9) uses the following formula:

℞ Sodii chloridi, 5 grammes;
Sodii sulphatis, 10 grammes;
Aquæ destillatæ, 1,000 c.c.

This solution should be sterilized just before its use. The injections are to be made with a syringe of a capacity of 10 c.c. (f3iiss), with an iridoplatinum needle, neither of too large a calibre nor too long, which should also be sterilized. The solution is used warm, and 5 c.c. are injected under the skin at each painful point, giving four, five, or six injections according to the case. The depth of the injection varies with the region in which it is to be made, and the situation of the nerve trunk. Sometimes it is really hypodermic (parenchymatous); this is particularly the case in the gluteal region. Following the injection, there is a slight local tumefaction, and absorption may be hastened by gentle friction with the finger ends. This method may be applied on several consecutive days without danger, but in ordinary cases once in two days is sufficient. In addition to sciatica, this treatment is applicable to facial neuralgia, intercostal neuralgia, scapulargia, lumbago, and other local painful affections.

Heliotherapy in Psoriasis.—M. Guhr (*Berliner klinische Wochenschrift*, April 23, 1906) had his attention directed to the effect of sunshine upon psoriasis by observing the following case: A boy, thirteen years of age, was seen standing on the shore of a pond before taking a bath in early springtime. He was rather delicately built, with a pale, anæmic skin, over which were scattered numerous lesions of psoriasis. The water was

rather cold and he spent most of the time exposing his body to the sun for warmth. Two weeks later, after the boy had taken about ten baths, he was seen again by the reporter in the same place. This time it was observed that the skin was no longer pale, but sunburnt and of a good color; the lesions of psoriasis had all disappeared, leaving only slight unpigmented spots. In producing this result, the sun's rays appeared to be the most important factor. During the last five years Guhr has had the opportunity of treating several cases by heliotherapy with good results. The method is very simple in its application. A suitable place, protected from wind and cold draughts, is selected where the sun's rays can fall upon a mattress. Upon the latter the patient is directed to lie, with the body exposed, but the head may be covered or shaded. Every three to five minutes he should change his position, so that all of the lesions may be exposed, in turn, to the direct rays of the sun. The bath usually lasts from twenty to thirty minutes, and is followed by a pack, so as to make the patient perspire freely, and a warm sitz bath. After this the patient takes a walk for half an hour. Care should be taken by persons of very light skin, unprotected by pigment, not to make the early exposures too long; later in the summer, when the pigment cells are deposited in the derma, longer exposures may be permitted without the danger of exciting inflammation or causing other injury by the actonic action of the sun. It is better that the sun bath should be given in the forenoon, about ten or twelve o'clock, on bright days. By this treatment the epidermis is thickened and the circulation and nourishment of the skin increased. The object of this treatment of psoriasis is twofold: the removal of the lesions and the submission of the exposed corium to the rays of the sun. The first factor is met by maceration, either by prolonged baths, oil, wet dressings, or sweat baths. The latter are best when caused by the beams of the sun; only the ultraviolet rays of which, as pointed out by Finsen, possess the property of irritating the skin and destroying bacteria. The second factor, the application of the sun's rays to the corium, stimulates the diseased cells to resume normal metabolism. As shown by Mole-schott, Rufini, Quincke, and others, the effects of light upon living tissues and cells are the increase of the oxygen consumption and of carbonic acid excretion; that is to say, an elevation of the tissue changes. The contraindications to this method of treatment are the presence of diseases attended by fever, a high grade of marasmus, or cachexia, heart disease with failing accommodation, arteriosclerosis, and a tendency to hæmorrhages, or congestion. Some persons are unable to bear the heat of the sun's rays, and are unsuited to this treatment. The cure of psoriasis by x ray and by the Finsen violet light, which has so many advocates, is admitted, but the simplicity of the heliotherapy and its success should lead to further trial. In persons who have a hereditary tendency to psoriasis, this method may be used not only for its curative effects, but also for its prophylactic properties, and for this purpose it can be used once or twice a year.

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BACILLUS CARRIERS.

The satisfaction of having conveyed a patient safely through an attack of typhoid fever may and sometimes does cause us to forget that he may still be a source of danger to the community. We are very careful about the isolation of our patients during the desquamation that follows the exanthemata, but we should be just as careful not to allow the dejecta of typhoid and paratyphoid convalescents to pass into the sewage without disinfection. The typhoid bacillus has been shown to exist in the intestinal tract for many months and sometimes years after an attack of typhoid fever, thereby producing a constant source of infection to sewage and the potential possibility of an epidemic. The bacilli are also excreted by the urine for some time after the recovery of the patient, and some writers believe that this excretion continues longer than that by the bowels, but that is probably not true, since the internal organs are free from bacteria a short time after recovery, with the exception of the gallbladder, which not improbably forms the repository for the remaining germs.

The Germans call such persons as have the bacteria in their intestinal tract "*Bacillenträger*" (bacillus carriers), and they seem to be paying considerable attention to them as originators of epidemics. The source of the bacteria is most probably the gallbladder, in which sac the organisms are present very nearly from the beginning of the attack and where they have been known to remain for many years, twenty in one case. From there to the intestinal contents is a very easy journey with the outgoing bile, and as the

typhoid bacillus can multiply in the bile, this secretion thus performs the double rôle of a culture medium for the organisms and a conveyor of infectious material to the intestinal tract. The gallstones which sometimes form around clumps of bacteria may also be a source of infection.

In view of these facts, if the recognized cases of typhoid are sources of danger, one may wonder what must be true of the mild and unrecognized cases. It is impossible in the present state of our knowledge to say how long one should disinfect the dejecta, but under ordinary circumstances a thorough disinfection of all urine and feces for a period of three months after convalescence should certainly relieve us of responsibility. If, however, a history of liver trouble is present or if the patient has had any symptoms suggestive of gallbladder involvement, care should be maintained for a much longer time, a year certainly not being too long. Moreover, infection by direct contact, distinct cases of which are on record, should never be forgotten, and it may occur through such media as food, cooking and table utensils, clothes, and the like.

UNUSUAL LOCALIZATIONS OF GOUT.

It is doubtless difficult to rid one's self altogether of a feeling of skepticism as to the gouty nature of certain localized morbid processes which are seated in other structures than those of the joints. Still, there are numerous instances in which there are features that may well be held to substantiate the view that such manifestations are really those of gout. The subject was quite pointedly presented at a recent meeting of the National Society of Medicine of Lyons (*Lyon médical*, April 8th), when M. Debout d'Estrées read a paper on glandular gout. He spoke of gouty orchitis as not uncommon in England, though very rare in France, and directed attention particularly to gout of the parotid gland, a gland which, in gout as well as in mumps, seems to have a special relation with the testicle.

In cases of irregular localization of gouty manifestations there seems to occur sooner or later an articular metastasis that is almost necessary to confirm the diagnosis. A case is cited by the author in which orchitis that could not be attributed to the ordinary causes of testicular inflammation gave way to a manifestly gouty attack in a toe, which in turn was followed by a pulmonary affection that was held to be gouty. In another instance the patient, an English lady, was so sure of the nature of her attacks that she said: "I had bronchitis in January, but in March I had my attack of gout of the lung."

M. Debout d'Estrées informs us that he was the first to maintain the existence of gout of the parotid gland, in 1885. In his first patient the disease showed itself primarily in the right parotid, and then invaded successively the left knee, the left parotid, and the right knee, finishing with a discharge of saliva loaded with urates. The ptyalism lasted for several weeks after the disappearance of the articular pains. It appears that the decisive arthritic attack may be postponed for a long time, for an instance is mentioned in which the late Dr. Damaschino caused the parotid of one of his patients to be incised, thinking that the case was one of abscess, and in which two years elapsed before an outbreak in the toe established the diagnosis. Thus far, twelve cases of parotid gout have come to the author's knowledge, one of them observed by Dr. Garrod, of London. In such attacks the parotid is swollen and painful, but without any tendency to suppuration, and resolution occurs only after a metastasis.

In the discussion which followed the reading of the paper, M. Bondet mentioned two cases of gouty manifestations on the face. In one of them there was a painful swelling at the root of the nose, and in the other the chin was the seat of a similar affection. In the second case the chin lesion was repeated some years later, and there was abundant evidence of its gouty nature. It was stated by M. Mayet that symptoms of cerebral arteritis were sometimes gouty, and that softening might supervene if it was not prevented by a metastasis.

FRACTURE OF THE CLAVICLE AND INJURY OF THE BRACHIAL PLEXUS.

In the *Gazette médicale de Nantes* for April 14th M. Joseph Léquyer makes the history of a case serve as the text for a useful résumé of our present knowledge of the relations between fracture of the clavicle and sensory, motor, and trophic abnormalities dependent on implication of the brachial plexus in the primary injury or its involvement in local changes consequent on the fracture. From the point of view of treatment, it is important in any given case to be able to form a rational opinion as to the mechanism of the trouble. In a rough way, the time at which the nervous phenomena supervene may serve as a guide. Sensory and motor disturbances make their appearance soon after the accident if they are due to a contusion of the plexus, to injury of it by a detached fragment of bone, or to its compression by a sanguineous effusion resulting from a wound of a vein; they appear only after several

days in cases of serosanguineous effusion at the seat of fracture; and it is not until after several weeks or even months that they set in when they are due to an excessive formation of callus.

If surgical intervention is to be of material service in overcoming the paralytic sequelæ, it must be timely, as is well shown in the case reported by the author. The fracture occurred on the 7th of December, and it was not until May 23rd that an operation was performed for the reduction of the callus which had caused the trouble. Some improvement was observed on the second day after the operation, but after the tenth day there was no further amelioration. It is suggested, in conformity to a supposition expressed by Frère in a thesis published in 1897, that nerve fibres of new formation, while full of vitality, had not been able to find or make a way for themselves through the hard and fibrous tissue resulting from a sclerotic process situated in the portion of nerve compressed by the callus. The author thinks it might have been well for the patient if the seat of injury had been opened at the time the callus began to appear, for then there would not have followed the lesion which proved almost irremediable by the late surgical intervention. He adds that it is the general opinion of surgeons who have studied the subject that preventive treatment ought to be resorted to early in cases of fracture of the clavicle that seem likely to lead eventually to troubles connected with the brachial plexus, for it is then very promising.

PROFUSE LOCHIA.

In the *Presse médicale* for March 14th M. Cyrille Jeannin reviews the general subject of the semiological significance of irregularities of the lochial discharge. We can here notice only one of its modifications, that of an augmented flow. This is sometimes observed quite apart from any pathological condition, and there are authors who think that it is more apt to take place if the mother does not nurse her child. It has been sought also to make out that the abundance of the lochia is proportionate to that of the blood ordinarily lost by menstruation, but M. Jeannin does not think that this contention is borne out by facts. To be reckoned as falling within physiological bounds, the discharge must not be too abundant; if it is decidedly profuse, some pathological condition is probably present.

Undue profusion of the sanguinolent lochia, if it is at all persistent, may be caused by some morbid general condition of the patient—exceptionally such hæmorrhagic states as those of

icterus gravis, purpura, scurvy, malignant small-pox, and the like. Apart from these affections, we should seek for the cause in albuminuria or heart disease. Then, too, there are local affections that may give rise to the trouble, notably uterine fibromata, especially those of the submucous variety (less frequently the interstitial growths, by hindering involution); and cancer of the cervix, by reason of its proliferation during pregnancy and of the bruising to which it is subjected in parturition, in which case a foetid ichor is added to the blood lost.

The old authors laid stress on abundance of the lochia cruenta in cases of peritonitis and inflammations of the annexa, but it is more probably connected with concomitant uterine infection. Puerperal metritis tends to maintain it and at the same time to interfere with involution of the uterus. We must not conclude that there is no infection simply because the discharge has no unusual odor or color. But the most common cause of a persistent hæmorrhagic character of the lochia is retention of some portion of the ovum in the uterine cavity, shreds of membrane or the débris of placental tissue. This condition is prone to lead to infection in addition to anæmia. In some cases the persistent bloody discharge is due to inertia of the lower segment of the uterus resulting from an abnormal placental implantation.

A return of the lochia cruenta some time after the normal cessation may in a few instances be physiological, possibly connected with ovulation, but often it is due to the shedding of an eschar consequent on laceration of the cervix. Finally, a benign or malignant deciduous formation may be the cause of prolonged and excessive bloody lochia.

CANCEROUS PULMONARY LYMPHANGEITIS.

Secondary carcinoma of the lung is a rare complication of carcinoma of the stomach, and, even when secondary nodules are discovered in the lungs at an autopsy, the disease is frequently unattended by symptoms which would lead the clinician to suspect its existence during life. Two cases of generalized cancerous pulmonary lymphangeitis from primary carcinoma of the stomach, reported by Bard in the *Semaine médicale* for March 28th, are therefore of interest.

One of the patients was a man, aged thirty-two years, who complained of gastrointestinal disturbances accompanied by emaciation, and had moderate pulmonary symptoms with fever. He was thought to be suffering from pulmonary tuberculous disease, but, as his sputum did not contain the *Bacillus tuberculosis* and, as his pul-

monary signs were variable, a revised diagnosis of acute emphysema was made. The disease progressed rapidly and the patient died. At the autopsy a carcinoma of the greater curvature of the stomach was discovered, with involvement of the neighboring lymph nodes, the liver, the spleen, the left suprarenal body, the thyroid gland, and several vertebræ. The retroperitoneal, the inguinal, the subclavicular, and the substernal lymph nodes were the seats of metastatic deposits, and one of the glands in the chest had opened into the thoracic duct. Both lungs were invaded by carcinoma nodules, which had spread along the lymph vessels.

The second patient was a man, aged thirty years, who complained of marked pulmonary symptoms. About three months before his admission to the hospital he had an attack of sudden gastric pain, with hæmatemesis and melæna, and his disease was diagnosticated as gastric ulcer. On account of this history the pulmonary symptoms were referred to perforation by the ulcer; but, on account of the absence of abdominal symptoms and the presence of albuminuria with casts, this diagnosis was changed to that of uræmia. At the autopsy a carcinoma of the lesser curvature of the stomach was discovered, with metastasis to the retroperitoneal, peribronchial, subhepatic, and pancreatic lymph nodes. Both lungs were studded with carcinomatous nodules which had been disseminated by the lymph vessels.

There are three sets of lymphatic vessels which drain the stomach—one set for the lesser curvature, one for the greater curvature, and one for the fundus. These vessels finally pour their lymph into the superior group of the preaortic glands, and these glands empty their lymph into the receptaculum chyli (Delamere, Poirier, and Cunéo). The infection of the lung with secondary carcinomatous nodules from a carcinoma of the stomach would be along these lymph paths to the thoracic duct and thence to the lung tissue by retrograde growth. It is, of course, possible for a carcinoma of the stomach to become adherent to the diaphragm and then, by contiguity, to infect the pleura and finally the lung tissue. The former is probably the more frequent route for the metastatic growths to follow. Bard points out that the progressive but rapid appearance of intense dyspnoea without sufficient explanation on auscultation, in a patient presenting hæmatemesis or some other positive sign of a carcinomatous or ulcerous lesion of the stomach, should make one suspect miliary carcinosis of the lung by lymphatic infection.

SPINAL ANÆSTHESIA AND OCULAR PARALYSIS.

Apparently temporary paralysis of certain muscles of the eye is to be included among the occasional untoward effects of spinal anæsthesia. Loeser (*Medizinische Klinik*, 1906, No. 10; *Centralblatt für die medizinischen Wissenschaften*, April 28th) reports two cases in which the trochlearis and the abducens of the left eye were affected. The paralysis came on in a few days after the operation and lasted for several weeks. In one of the cases novocaine and in the other stovaine was the anæsthetic that had been used.

YELLOW FEVER.

The observations of the French Commission for the Study of Yellow Fever, which were made at Rio de Janeiro, have been published in the *Annales de l'Institut Pasteur* for November, 1903, and for January, February, and March, 1906. In the last memoir the authors, E. Marchoux and P. L. Simond, devote considerable space to their general conclusions. They agree to the observations of the original American Commission, composed of Reed, Carroll, Lazear, and Agramonte, that *Stegomyia fasciata* is the agent by which yellow fever is transmitted from patient to patient, and they give the American workers full credit for the demonstration of the fact. Their conclusions are in the main parallel with those of the Americans, although there are some additions to the general subject as presented in an address before the American Society of Tropical Medicine by Dr. Carroll in 1904, which was published in the *New York Medical Journal* for February 6 and 13, 1904.

In order to become infected, the mosquito must bite the yellow fever patient during the first three days of his disease. The mosquito does not become infected if he bites the patient during the incubation period or after the third day of the disease. After biting the patient, twelve days are required for the mosquito to become an infecting agent; but after that time the insect is a source of danger as long as it lives. As the female of this variety of mosquito lives for twenty or thirty days and lays eggs about seven times, she is capable of infecting many individuals, if she is herself infected. She requires human blood for the development of her eggs, which explains her obstinacy in tormenting man by her bites. She appears to be able to transmit the infecting power to the first generation of her offspring, but the insects issuing from the eggs do not seem to be capable of transmitting the disease until after the fourteenth day of their existence in the perfect state. In nature the

stegomyia bites only at night; so that in a yellow fever district people are safe during the day, but must protect themselves from this insect during the night.

The French Commission has been unable to isolate the microorganism of yellow fever. It does not exist in the blood on the fourth day of the disease; it passes through the Chamberland candle F, but is retained by the B candle; it is destroyed by being kept at a temperature of 55° C. (131° F.) for five minutes; preserved in the air, serum loses its virulence in forty-eight hours; in defibrinated blood protected from the air by vaseline the virus is still living after five days, but has lost its activity after eight days. By making an uninfected *Stegomyia fasciata* ingest the dead bodies of virulent *Stegomyia fasciata* the authors have been able to infect the former insect, but have succeeded in obtaining this result only for a first passage. These characteristics suggest that the organism belongs to the family of spirilla.

A relative immunity can be obtained by injecting serum kept at 55° C. for five minutes or defibrinated blood preserved under vaseline for eight days. The serum of a patient in the eighth day has protective properties, as has also the serum of convalescents. A first attack of yellow fever confers an immunity which is usually permanent, but this immunity may become attenuated so that after a variable time recurrence may be possible; the second attack is usually benign. No race has a natural immunity; the difference in susceptibility to the disease appears to be dependent on the power of the odor of the skin of the individual to attract or repel the *Stegomyia fasciata*. The Commission finds that the defense against yellow fever consists in the extinction of the *Stegomyia fasciata* and in the isolation of the patients from the mosquitoes. These facts were demonstrated in New Orleans and in the Canal Zone in 1905.

Obituary.

FRANK L. TOZIER, M. D.,
OF BATAVIA, N. Y.

The death of Dr. Tozier has removed from the ranks of the medical profession of Batavia one of its most prominent and able members. It is a noticeable fact that within a year the profession in that city has met with two severe losses. No two physicians there practising were held in higher regard, both by the layman and by members of the profession, than Dr. Benjamin F. Showerman, who died about a year ago at the age of forty years, with cancer of the stomach, and Dr. Tozier, who recently died at the age of

thirty-four years, after an illness of three days with appendicular disease followed by peritonitis. Both these young men had attained a high mark of distinction as physicians and surgeons.

News Items.

NEW YORK CITY AND STATE.

Personal.—Dr. Jokichi Takamine, the well known Japanese chemist of New York, has received the decoration of the Order of the Rising Sun, from His Majesty the Emperor of Japan.

The Rochester Academy of Medicine.—The programme for a meeting, held on Wednesday, May 23rd, was as follows: The Hygiene of Infancy, by Dr. G. W. Goler; Infant Feeding, by Dr. E. G. Nugent.

The Medical Society of the County of Yates, N. Y.—At a meeting, held at Penn Yan, on May 16th, this society was reorganized with the following officers: President, Dr. C. M. VanDyke, Himrod; vice-president, Dr. C. C. Harvey, Dundee; secretary, Dr. Harry S. Tuthill, Penn Yan; treasurer, Dr. C. E. Doubleday, Penn Yan. The society is now in affiliation with the State and National bodies.

The Medical Society of the County of Otsego, N. Y., will hold its semi annual meeting at Cooperstown, on Tuesday, June 12th. This will be the first regular meeting since the society conformed to the by laws of the amalgamated State societies. An interesting programme has been arranged for the meeting. Nominations will be made of officers and delegates to be voted for at the annual meeting.

The Jewish Maternity Hospital.—This hospital has recently been incorporated by the State board of charities. The board of directors has under consideration several plots of land on the lower East Side of this city; as soon as the selection is made, ground will be broken for the erection of a hospital building, which will be equipped in the modern system. Until the building is ready for the reception of patients, an outdoor service will be carried on. Physicians desiring to be appointed to the district outdoor service which will be inaugurated in about a month, may apply to Dr. A. M. Hilkowich, 207 East Broadway.

The Medical Society of the County of New York.—The following programme was presented at a meeting, held under the auspices of the committee on hygiene, on Monday, May 28th: Medical Examination and Inspection of School Children (lantern demonstration), by Dr. S. Josephine Baker, Medical Inspector, Department of Health; Food Inspection in New York City (lantern demonstration), by Mr. Bayard C. Fuller, Supervising Food Inspector, Department of Health; Food Laws; Their Adequacy and Inadequacy, by Harford P. Walker, Esq., Assistant Corporation Counsel, New York city; Discussion.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Health Department, for the following statement of new cases and deaths reported for the two weeks ending May 26, 1906:

| | May 26. | | May 19. | |
|-------------------------------|---------|---------|---------|---------|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever..... | 37 | 9 | 15 | 4 |
| Smallpox..... | 2 | .. | .. | .. |
| Varicella..... | 111 | .. | 83 | .. |
| Measles..... | 1,111 | 35 | 1,252 | 37 |
| Scarlet fever..... | 219 | 31 | 305 | 28 |
| Whooping cough..... | 38 | 7 | 37 | 5 |
| Diphtheria..... | 378 | 46 | 370 | 54 |
| Tuberculosis pulmonalis..... | 404 | 184 | 383 | 193 |
| Cerebrospinal meningitis..... | 35 | 23 | 31 | 32 |
| Totals..... | 2,335 | 335 | 2,476 | 353 |

A Warning Against an Impostor.—We are informed by Dr. I. N. Wornow, of New York, that a man who introduces himself as Mr. Coleman, is visiting physicians and dentists as the alleged representative of the Union Book and Publishing Company, of Chicago, publishers of a periodical known as *America: Her Grandeur and Her Beauty*, for which the man solicits subscriptions. His method is to collect of subscribers one dollar, for which he gives a receipt and leaves two copies of the periodical. Doubting his statements and promises of premiums, Dr. Wornow wrote to the above named company inquiring about the man. In reply Dr. Wornow received from the firm a letter in which is said: "We have not now and have not had at any time within five months a representative in your city, and we

never had, at any time, a man in our employ in your city by the name of Coleman." The man is denounced as an impostor and fraud and the firm offers a reward of \$25 for his arrest and conviction.

The Medical Relief Committee for the California Sufferers appointed by the New York Academy of Medicine and the Medical Societies of the Counties of New York and Richmond, has raised to date \$6,028. Most of this is due to individual subscriptions, but several medical societies have contributed generously, including: German Medical Society, Harlem Medical Society, Medical Society of the County of New York, Metropolitan Medical Society, New York Academy of Medicine, Society of Dermatology and Genitourinary Surgery, Woman's Medical Association, and the Yonkers Practitioners' Society. When these contributions have all been turned in the committee will have \$7,000, which is to be placed at the disposal of the proper authorities in San Francisco. The physicians in California have organized a committee representative of the State and County Societies, and this committee is prepared to receive and disburse funds. The New York Chamber of Commerce appropriated \$5,000 out of its fund, to be used for medical relief in connection with this fund.

Society Meetings for the Coming Week:

MONDAY, June 4th.—New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y. Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., Medical Society; Chicago Medical Society.

TUESDAY, June 5th.—New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Elmira, N. Y., Academy of Medicine; Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Hudson, N. J., County Medical Association (Jersey City); Androscoggin, Me., County Medical Association (Lewiston); Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

WEDNESDAY, June 6th.—New York Academy of Medicine (Section in Public Health); Society of Alumni of Bellevue Hospital; Harlem Medical Association of the City of New York; New York Genitourinary Society; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond, N. Y. (New Brighton); Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association.

THURSDAY, June 7th.—New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Medical Society of the City Hospital Alumni, St. Louis; Atlanta Society of Medicine.

FRIDAY, June 8th.—Brooklyn Dermatological and Genitourinary Society (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties, N. Y.

SATURDAY, June 9th.—Obstetrical Society of Boston (private).

PHILADELPHIA AND THE MIDDLE STATES

Change of Address.—Dr. Joseph F. Ulman to No. 2629 North Twenty-ninth Street, Philadelphia.

Personal.—Dr. John H. Brinton has resigned from the chair of surgery at the Jefferson Medical College.

Dr. W. W. Keen has been elected president of the American Baptist Missionary Union.

The Commencement Exercises of the Training School for Nurses of the Philadelphia Lying-in Charity were held on May 23rd. Twenty-eight young women received the diploma of the school.

The Annual Commencement of the Woman's Medical College of Pennsylvania was held at the Academy of Music, Philadelphia, on Thursday, May 24th. The address was delivered by Dr. John Lovejoy Elliott, of New York. The Agnes Robinson Mesner anatomy prize was awarded to Miss Edith Van Dyke, of Oregon. In the evening the

graduating class was entertained at the college by the Board of Corporators. Twenty-four young women received the degree of doctor of medicine.

Trained Nurses for the Philadelphia Public Schools.—The Board of Education has advocated the employment of a number of trained nurses for work in the public schools. There is some difficulty in having a bill carrying the necessary appropriation passed by the city council.

The Graduating Exercises of the Training School for Nurses of the Jewish Maternity Hospital were held on Thursday evening, May 24th. Dr. Jay F. Schamberg delivered the address. Miss Bessie H. Gustine and Miss Hannah Weinstock composed the graduating class.

Philadelphia Municipal Hospital Census:

| | Remaining,
last report. | Received. | Dis-
charged. | Died. | Re-
maining. |
|----------------|----------------------------|-----------|------------------|-------|-----------------|
| Diphtheria | 118 | 163 | 155 | 26 | 100 |
| Scarlet fever | 107 | 46 | 59 | 8 | 86 |
| Smallpox | 2 | 1 | 2 | 0 | 1 |
| Other diseases | 5 | 7 | 7 | 3 | 2 |

The State Department of Health of Pennsylvania has been issuing circulars designed for popular instruction in the care of patients suffering from transmissible diseases and for the dissemination of information concerning methods of prevention of the spread of such diseases. The latest circular deals with consumption.

The Water Commission of the City of Philadelphia, composed of Dr. W. M. L. Coplin, director of the Department of Public Health and Charities; the chief of the bureau of surveys, and the chief of the bureau of water, is considering plans proposed by Dr. Samuel G. Dixon, State commissioner of health, for the improvement of the sewerage system of this city.

Scientific Society Meetings in Philadelphia for the Week Ending June 9, 1906.—Monday, June 4th, Philadelphia Academy of Surgery; Biological and Microscopical Sections, Academy of Natural Sciences; West Philadelphia Medical Association; Northwestern Medical Society. Wednesday, June 6th, College of Physicians; Association of Clinical Assistants of Wills Hospital. Thursday, June 7th, Obstetrical Society. Friday, June 8th, Northern Medical Association.

The Commencement Exercises of the Training School for Nurses of the Germantown Hospital were held on Monday evening, May 21st. Dr. Robert L. Pitfield delivered one of the addresses. The following women received the diploma of the school: Miss Florence De Barth Elvidge, of Germantown; Miss Emma Marie Lentz, of Mount Carmel; Miss Margaret Eleanor Jones, of Wilkesbarre; Miss Edith Denny Boggs, of Germantown; Miss Elsie Virginia Jeffords, of Germantown; Miss Madge Mildred Lutz, of Columbia; Miss Jeannette Palmer Boggs, of Germantown, and Miss Nell Fulweller, of Columbia.

The Commencement Exercises of the Philadelphia Institute of Mechanotherapy were held on May 18th. The following students received certificates of proficiency in massage, gymnastics, electrotherapy and hydrotherapy: Emily J. Beauchamp, Montreal; Marion L. Japes, Buffalo, N. Y.; Josephine Todd, Scranton, Pa.; Ida K. Latshaw, Spring City, Pa.; Emma N. Short, Baltimore, Md.; Ida M. Rambo, Indianapolis, Ind.; Grace H. Van Laer, Auburn, N. Y.; Caroline Gull, Chestnut Hill, Pa.; Caroline E. Pretz, Allentown, Pa.; Irma Lumpkins Coe, Atlanta, Ga.; Louise A. Henninger, Allentown, Pa.; Jennie C. Dougherty, Philadelphia; James Dunphy, Philadelphia; John J. Bernard, Pottsville, Pa.; Ella S. Clifton, Gore, Va.; Ida A. Jansson, Hango, Finland; Margaret M. Snedden, Philadelphia; Thelka Buehler, Philadelphia; Annie P. Naylor, Philadelphia; Ray Taylor, Philadelphia; James F. Chadwick, Fall River, Mass.

Philadelphia Bureau of Health Statistics.—During April the division of medical inspection made 6,295 inspections, exclusive of schools, and ordered 1,089 fumigations. Forty cases were referred for special diagnosis; 4,921 visits were made to schools and 786 children were excluded from school; 186 cultures were taken; 224 injections of antitoxine were given and 479 people were vaccinated. In the division of vital statistics 2,368 deaths were reported, 610 births were recorded, and 817 marriages were reported. In the division of milk inspection 5,775 inspections were made of 112,430 quarts of milk, of which 171 quarts were condemned. Four chemical and 859 microscopical examinations were made.

In the division of meat and cattle inspection 2,307 inspections were made, of which 127 were found unsanitary. Two thousand three hundred and seven inspections of dressed meats were made and 99 condemnations were ordered. Six hundred and fifty-eight postmortem inspections were made, of which 60 were condemned. In the division of disinfection 3 fumigations were made for smallpox, 174 for scarlet fever, 333 for diphtheria, 176 for typhoid, 213 for tuberculosis, 1,417 miscellaneous disinfections were done, and 31 schools were fumigated. In the bacteriological laboratory 817 cultures were examined for diphtheria bacilli; 626 specimens of blood were examined for the serum diagnosis of typhoid fever; 860 specimens of milk were examined; and 150 specimens of sputum were examined; 3,518,000 units of antitoxine were supplied. In the chemical laboratory 8 disinfection tests were made and 103 specimens of various kinds were analyzed.

The Tenth Annual Meeting of the Botanical Society of Pennsylvania was held in Biological Hall, University of Pennsylvania, on May 19th. Dr. Adolph W. Miller presided. Miss M. Lape read a paper on "Our City School Gardens." Professor H. Clay Borden read a paper on the Fossil Trees Around Philadelphia and Elsewhere. Other addresses were made by Prof. S. C. Schmucker, on The Relation of Birds to Plants; Dr. J. W. Harshberger, The Sea Gardens of Bermuda; Miss M. Mackenzie, The Great Oak Family; H. G. Kribs, The Photography of Living Objects by Ultra Violet Rays; Oglesby Paul, The History of the Iris; Dr. Frances Bartlett, Simples in Use from the Plant World; and George T. Hastings, The Flora of Robinson Crusoe's Island. At the afternoon session, which began at 4 o'clock, Louis Krautter lectured on Our Forestry Problem. The other papers read were by Mrs. S. T. Roger, on The Chemical and Physical Changes of Vegetable Foods Under the Influence of Heat; The Study of Leaves, by Prof. A. C. Apgar; Gravity Perception by Plants, by M. H. Jacobs; Some Plant Histories, by Prof. J. M. Macfarlane.

The Health of Philadelphia.—During the two weeks ending May 19, 1906, the following cases of transmissible diseases were reported to the Bureau of Health:

| | Week ending | | Week ending | |
|---------------------------|-------------|---------|-------------|---------|
| | May 12th. | Deaths. | May 19th. | Deaths. |
| Measles | 2 | 0 | 1 | 0 |
| Typhoid fever | 306 | 26 | 309 | 31 |
| Scarlet fever | 54 | 1 | 48 | 4 |
| Chickenpox | 29 | 0 | 27 | 0 |
| Smallpox | 1 | 0 | 0 | 0 |
| Diphtheria | 29 | 9 | 71 | 13 |
| Cerebrospinal meningitis | 8 | 1 | 4 | 3 |
| Measles | 397 | 9 | 343 | 4 |
| Whooping cough | 55 | 13 | 66 | 12 |
| Tuberculosis of the lungs | 97 | 63 | 126 | 76 |
| Pneumonia | 104 | 62 | 86 | 55 |
| Erysipelas | 25 | 4 | 9 | 1 |
| Eruptive fever | 1 | 4 | 1 | 3 |
| German measles | 7 | 0 | 8 | 0 |
| Septicemia | 0 | 0 | 1 | 2 |
| Mumps | 20 | 0 | 21 | 0 |
| Anthrax | 0 | 0 | 1 | 0 |
| Cancer | 15 | 21 | 23 | 22 |

The following deaths were reported from other transmissible diseases: Tuberculosis, other than tuberculosis of the lungs, 21; diarrhoea and enteritis, under two years of age, 43. The total deaths numbered 1,059, in an estimated population of 1,469,126, corresponding to an annual death rate of 18.74 in 1,000 population. The total infant mortality was 231; under one year of age, 175; between one and two years of age, 56. There were 62 still births, 36 males and 26 females. The first hot weather of the season was felt on the 17th, 18th, and 19th, when the maximum temperature recorded was 89 degrees, 93 degrees, and 89 degrees, respectively. During the two weeks there was but 0.52 inch of precipitation. The newspapers recorded some deaths from the heat of the 18th, but these do not appear in the official records.

Philadelphia Branch of the American Pharmaceutical Association.—The third stated meeting of this branch was held on the evening of Monday, May 21st, in the hall of the College of Physicians, and was devoted to a discussion of Self Medication and the Evils of Counter Prescribing. The first paper of the evening, Limitation to Self Medication, by Dr. Thomas Neilson, was devoted largely to the consideration of the possible abuses that have arisen out of the use of proprietary nostrums for venereal diseases, sold or furnished by retail pharmacists. Dr. W. M. L. Coplin in discussing Counter Prescribing and Its Relation to the Public Health, called attention to the importance of safe-

guarding members of the community from communicable diseases, and also outlined the methods that he proposes to follow in eliminating the irregular practice of medicine, at least in so far as it relates to, or has any bearing on, the more important of these diseases. Charles H. LaWail, Ph.M., in discussing *The Duty of the Pharmacist to Aid in the Elimination of Irregular Practices*, called attention to the fact that counter prescribing and the sale of the more objectionable nostrums, such as abortifacients, were largely confined to pharmacists who had persistently held aloof from association work, and had, therefore, not been duly impressed with a proper sense of their duty in matters of this kind. He believed that it was clearly the duty of the better class of pharmacists to educate, not alone the public, but also the physician, as to the dangers and the risks that are involved in self medication and the promiscuous use of so called proprietary medicines, many of which the pharmacist knew to be fraudulent, while others had been proved to be positively dangerous.

BOSTON AND NEW ENGLAND.

The New Buildings of Harvard Medical School.—The President and Fellows of Harvard College and the Faculty of Medicine have issued invitations to the alumni to be present at the dedication ceremonies, which are to be held on Tuesday afternoon and Wednesday morning, September 25 and 26, 1906.

The White River (Vt.) Medical Society held its twenty-first annual meeting and *Eleventh Annual Ladies' Night and Banquet*, at White River Junction, on Tuesday, May 15th. Routine business was transacted and the President's address on *A New Treatment of Pneumonia*, was delivered. The remainder of the meeting was given up to social enjoyment.

The Kennebec County (Me.) Medical Association held its annual meeting at Augusta, on Wednesday, May 23rd, with the following programme: President's address, Dr. Alton Sawyer, Gardiner; State Hospital Provisions for the Criminal Insane, Dr. Bigelow T. Sanborn, Augusta; discussion opened by Dr. F. C. Thayer, Waterville; Dr. W. P. Giddings, Gardiner; Some Sequelæ of Gonorrhœa in Males, Dr. E. W. Boyer, Waterville; discussion opened by Dr. W. Johnson, Augusta; Dr. T. E. Hardy, North Vassalboro; Intestinal Autointoxication and Its Relation to Disease, Dr. E. P. Fish, Sidney; discussion opened by Dr. J. E. Tuell, Augusta; Dr. H. E. Milliken, Hallowell; Report of Cases.

The New Hampshire Medical Society.—At the one hundred and fifteenth meeting, held at Concord, on Thursday and Friday, May 17th and 18th, officers for the ensuing year were elected as follows: President, Dr. Ira A. Prouty, of Keene; vice-president, Dr. J. H. Neal, of Rochester; treasurer, Dr. D. M. Currier, of Newport; secretary, Dr. D. E. Sullivan, of Concord; necrologist, Dr. E. E. Graves of Penacook. Under the revised constitution the entire membership of the Merrimack County Medical Society constitutes the committee of arrangements for the next meeting.

The Mortality of Boston.—The number of deaths reported to the board of health for the week ending May 19th, was 214, as against 198 the corresponding week last year, showing an increase of 16 deaths, and making the death rate for the week 18.75. The number of cases and deaths from infectious diseases reported this week was as follows: Diphtheria, 34 cases, 5 deaths; scarlatina, 26 cases, no deaths; typhoid fever, 6 cases, 2 deaths; measles, 85 cases, 1 death; tuberculosis, 43 cases, 21 deaths; smallpox, no cases, no deaths. The deaths from pneumonia were 33, whooping cough 3, heart disease 25, bronchitis 4, marasmus 5. There were 11 deaths from violent causes. The number of children who died under one year of age was 35, under five years of age 60, persons over sixty years of age 50, deaths in public institutions 74.

BALTIMORE AND THE SOUTH

The Baltimore Medical College.—At the twenty-fifth annual commencement, which took place on May 22nd, the medical degree was conferred on ninety-six graduates.

The Floyd County (Ga.) Medical Society.—At a meeting, held at Rome, Ga., on Saturday, May 26th, the programme consisted of reports of clinical cases, by Dr. Robert H. Wicker.

The West Virginia State Medical Association will hold its thirty-ninth annual meeting at Webster Springs, on Wednesday, Thursday, and Friday, June 20th, 21st, and 22nd.

The Troup County (Ga.) Medical Association.—At a meeting, held at La Grange, on Thursday, May 10th, officers were elected as follows: President, Dr. J. S. Horsley, of West Point; vice-president, Dr. A. J. Tuggle, of La Grange; secretary, Dr. H. W. Terrell, of La Grange.

The Johns Hopkins Hospital Medical Society held a meeting on Monday, May 21st. The programme included the following papers: *A Simple Method for the Quantitative Determination of Proteid in Milk*, Dr. Boggs; *The Blood in Pernicious Anæmia*, Dr. C. P. Emerson; *Trachoma in the Negro Race*, Dr. James Bordley, Jr.; *Some Peculiar Forms of Cirrhosis of the Liver*, Dr. MacCallum.

Licensed to Practice Medicine in the District of Columbia.—As the result of the April examination, the following physicians have been licensed by the District board of medical supervisors to practice medicine and surgery in the District of Columbia: William E. Morgan, Alberta S. Boomhower-Guibord, Seth E. Moore, Charles W. Allen, Charles I. Griffith, John J. Wharton, Jr., Charles A. Pfender, Robert A. Schoonover, Henry F. Sawtelle, Ross J. Hillegass, Elzora B. Allen, Sara W. Brown.

The Missouri State Medical Association.—At the annual meeting, held at Jefferson City, on May 15th, 16th, and 17th, the election of officers resulted as follows: President, Dr. C. H. Wallace, of St. Joseph; vice-presidents, Dr. F. W. Allen, of Callao, Dr. W. G. Carow, of Sedalia, Dr. C. F. Orr, of St. Louis, Dr. E. H. Thraillkill, of Kansas City, and Dr. H. L. Reid, of Charleston; secretary, Dr. C. M. Nicholson, of St. Louis; treasurer, Dr. J. Franklin Wells, of Salisbury; chairman of committee on public health, Dr. F. J. Lutz, of St. Louis; orator in medicine, Dr. W. F. Kuhn, of Kansas City; orator in surgery, Dr. P. Y. Tupper, of St. Louis. Jefferson City was selected for the meeting place in 1907.

The Mortality of Baltimore.—The report of the health department for the week ending May 19, 1906, showed a total of 195 deaths, as compared with 148 the corresponding week of last year, 183 in 1904, and 198 in 1903. The annual death rate in a thousand of population was: Whole, 17.43; white, 15.27; colored, 28.95. The principal causes of death were: Typhoid fever, 1; measles, 2; scarlet fever, 3; whooping cough, 2; membranous croup, 1; influenza (la grippe), 1; consumption, 37; cancer, 13; apoplexy, 8; organic heart diseases, 17; bronchitis, 1; pneumonia, 10; Bright's disease, 16; congenital debility, 14; lack of care, 4; old age, 2; suicides, 3; accidents, etc., 12. The following number of cases of infectious diseases were reported, as compared with the corresponding week of last year:

| | 1905. | 1906. |
|------------------------------|-------|-------|
| Smallpox | 0 | 1 |
| Diphtheria | 14 | 12 |
| Pseudomembranous croup | 0 | 1 |
| Scarlet fever | 6 | 19 |
| Typhoid fever | 11 | 47 |
| Measles | 137 | 23 |
| Mumps | 0 | 2 |
| Whooping cough | 40 | 9 |
| Chickenpox | 2 | 7 |
| Consumption | 13 | 9 |

CHICAGO AND THE WEST.

The State College of Physicians and Surgeons of Indiana, the new medical school to be affiliated with Indiana University, was incorporated on May 23rd. The purpose is to maintain a college of medicine, surgery and obstetrics in Indianapolis. The building of the old Central College of Physicians and Surgeons, in Senate Avenue, has been bought and the new institution will open next autumn. A clinic has already been established.

The Iowa State Medical Society.—At the annual meeting, held at Des Moines, on May 16th and 17th, the election of officers resulted as follows: President, Dr. E. W. Clark, of Grinnell; vice-presidents, Dr. H. A. Leipziger, of Burlington, and Dr. M. J. Kenefick, of Algona; secretary, Dr. V. L. Treynor, of Council Bluffs (retained). The next meeting of the society will be held at Cedar Rapids, on the third Wednesday in May, 1907.

The Michigan State Medical Society.—At the annual meeting of this society held at Jackson, on May 23rd, 24th and 25th, the election of officers resulted as follows: President, Dr. C. B. Stockwell, Port Huron; first vice-president, Dr. William Fuller, Grand Rapids; second vice-president, Dr. Edward Abrams, Dollar Bay; third vice-president, Dr. D. E. Robinson, Jackson; fourth vice-president, Dr. A. R. Stealy, Charlotte; delegates to the American Medical As-

sociation—Dr. A. J. Lawbaugh, Calumet; Dr. Leartus Connor, Detroit; alternate—Dr. O. H. Clark, Kalamazoo. The next meeting will be held at Saginaw.

The Wayne County (Mich.) Medical Society.—At a meeting of this society, held at Detroit, on Tuesday, May 22nd, the election of officers resulted as follows: President, Dr. J. H. Carstens, of Detroit; vice-president, Dr. W. F. Metcalf, of Detroit; secretary-treasurer, Dr. Walter D. Ford, of Detroit; board of directors, Dr. G. W. Wagner, Dr. H. W. Yates, Dr. L. J. Hirschman, Dr. Guy L. Kiefer, Dr. F. B. Tibbals; executive committee of defense league, Dr. F. B. Tibbals, Dr. J. Flinterman. On motion of Dr. H. O. Walker the society voted that \$100 be taken from its treasury and added to the \$275 contributed to the relief fund for San Francisco doctors.

The Oklahoma State Medical Association.—At the annual meeting, held at Oklahoma City, on May 8th, officers were elected as follows: President, Dr. B. F. Fortner, of Vinita, I. T.; first vice-president, Dr. M. A. Kelso, Enid, Okla.; second vice-president, Dr. Walter C. Bradford, Shawnee, Okla.; third vice-president, Dr. Floyd E. Waterfield, Holdenville, I. T.; secretary-treasurer, Dr. E. O. Barker, Guthrie, reelected; delegates to American Medical Association, at Boston, Mass., Dr. Fred. Clinton, of Tulsa, and Dr. J. A. Hatchett, of El Reno; councilors, Dr. Bush, of Guthrie, Dr. Leroy Long, of South McAlester, I. T., and Dr. F. M. Duckworth, of Claremore, I. T. Shawnee was selected as the next place of meeting.

Statement of Mortality in Chicago for the Week Ending May 19, 1906, compared with the preceding week and with the corresponding week of 1905. Death rate computed on United States Census Bureau's figures of midyear populations—2,049,185 for 1906, 1,990,750 for 1905:

| | May 19,
1906. | May 12,
1906. | May 20,
1905. |
|-------------------------------------|------------------|------------------|------------------|
| Total deaths, all causes..... | 652 | 583 | 539 |
| Annual rate in 1,000..... | 16.59 | 14.84 | 14.11 |
| SEXES | | | |
| Males..... | 392 | 352 | 302 |
| Females..... | 260 | 231 | 237 |
| AGES | | | |
| Under 1 year of age..... | 110 | 120 | 104 |
| Between 1 and 5 years of age..... | 61 | 51 | 51 |
| Between 5 and 20 years of age..... | 39 | 48 | 28 |
| Between 20 and 60 years of age..... | 281 | 230 | 238 |
| Over 60 years of age..... | 128 | 134 | 118 |
| Important causes of death— | | | |
| Apoplexy..... | 13 | 10 | 16 |
| Bright's disease..... | 39 | 48 | 46 |
| Bronchitis..... | 13 | 19 | 19 |
| Consumption..... | 68 | 55 | 58 |
| Cancer..... | 32 | 24 | 28 |
| Convulsions..... | 7 | 10 | 9 |
| Diphtheria..... | 9 | 8 | 2 |
| Heart diseases..... | 41 | 37 | 53 |
| Influenza..... | 2 | 4 | 1 |
| Intestinal diseases, acute..... | 35 | 26 | 32 |
| Measles..... | 8 | 7 | 7 |
| Nervous diseases..... | 23 | 27 | 26 |
| Pneumonia..... | 138 | 109 | 70 |
| Scarlet fever..... | 10 | 11 | 1 |
| Smallpox..... | 1 | — | — |
| Suicide..... | 10 | 8 | 13 |
| Typhoid fever..... | 5 | 9 | 7 |
| Violence (other than suicide)..... | 48 | 31 | 32 |
| Whooping cough..... | 7 | 5 | 14 |
| All other causes..... | 149 | 135 | 109 |

The three days of midsummer heat were especially severe on the two extremes of life—the very young and the aged. Thirty-three more deaths under 5 years of age were reported during the week than during the week previous and forty-nine more than during the corresponding week of 1905. The total deaths from all causes were fifty-nine and 123 more respectively similarly compared. Except for diphtheria and scarlet fever, however, the number of cases of the contagious diseases reported to the department shows a decrease from the preceding week and, for the first time since the early part of last December, no influenza bacilli were found in any of the cultures examined in the laboratory.

GENERAL

The American Association of Pathologists and Bacteriologists.—The sixth annual meeting was held at the Johns Hopkins Medical School, Baltimore, on Friday and Saturday, May 18th and 19th, under the presidency of Dr. James Ewing, of New York. The next meeting of the association will be held at Washington, D. C.

The American Gynecological Society.—At the annual meeting, held at Hot Springs, Va., on May 22nd, officers for the ensuing year were elected as follows: President, Dr. Clement Cleveland; vice-presidents, Dr. J. Clifton Edgar

and Dr. W. M. Ford; secretary, Dr. J. Riddle Goffe, all of New York; treasurer, Dr. J. M. Baldy, of Philadelphia.

Examination for Appointment in the Medical Corps of the Army.—Preliminary examinations of candidates for appointment in the medical corps of the army will be held at various military posts throughout the United States on July 31, 1906; full information in regard thereto may be obtained from the Surgeon General of the Army. Applications must be filed prior to June 30th. Thirty years is the prescribed maximum age limit; persons whose age exceeds that limit are not eligible for examination.

The American Laryngological, Rhinological, and Otolological Society will hold its twelfth annual meeting at Kansas City, Mo., on Monday, Tuesday, and Wednesday, June 11, 12, and 13, 1906. The following titles are included in the programme prepared for the meeting: Papers: An Operation for the Cure of Recurrent Quinsy or Peritonsillar Abscess, with a Report of Cases, by Dr. Robert C. Myles, New York; A Case of Hysteroepilepsy, the Probable Result of Necrosing Ethmoiditis, by Dr. W. W. Bulette, Pueblo, Colo.; (Thesis) Ocular Symptoms of Nasal Origin. Report of a Case of Retrobulbar Neuritis and Other Illustrative Cases, by Dr. Hill Hastings, Los Angeles, Cal.; Report of a Case of Infective Thrombosis of the Sigmoid Sinus, by Dr. H. Bert Ellis, Los Angeles, Cal.; Middle Ear Suppuration as an Aetiological Factor in Retropharyngeal Abscess, by Dr. Edgar M. Holmes, Boston, Mass.; Symposium—Results of Operative Procedures Upon the Nasal Septum. (1) Submucous Resection, Dr. Joseph Beck, Chicago, Ill.; Dr. Chevalier Jackson, Pittsburgh, Pa.; (2) By Means of Various Incisions, by Dr. Thomas Hubbard, Toledo, Ohio, and Dr. J. F. Barnhill, Indianapolis, Ind.; (3) Roe Method, by Dr. John O. Roe, Rochester, N. Y.; (4) The Correction and Closure of Perforations of Nasal Septum, by Dr. M. A. Goldstein, St. Louis, Mo.; An Original Research on the Cause of Vocal Nodules, by Dr. Frank E. Miller, New York; A Study of the Anatomy of the Accessory Cavities of the Nose, by Topographic Projections, by Dr. H. W. Loeb, St. Louis, Mo.; The Function of the Accessory Cavities of the Nose, by Dr. J. M. Ingersoll, Cleveland, Ohio; The Pathological Processes Accompanying Infections Involving the Accessory Sinuses of the Nose, by Dr. D. B. Kyle, Philadelphia, Pa.; (Thesis) Skiagraphy in the Diagnosis of Frontal Sinusitis, by Dr. W. A. Chisholm, New York; The Exhibition of Skiagraphs Showing Various Diseased Conditions and Anomalies of the Accessory Sinuses of the Nose, by Dr. C. G. Coakley, New York; Some Recurrent Improvements in the Technique of Operations Upon the Accessory Sinuses of the Nose, by Dr. H. Holbrook Curtis, New York; Some Phases of the Treatment of Chronic Nasal Accessory Sinus Disease, by Dr. R. Bishop Canfield, Ann Arbor, Mich.; (Thesis) The Nasal Turbinate as a Vasomotor Index, by Dr. James A. Babitt, Philadelphia, Pa.; Carcinoma of the Larynx, by Dr. William L. Ballenger, Chicago, Ill.; Three Cases of Laryngeal Neoplasm. (1) A Neoplasm in the Larynx Noted from Six Months to the Ninth Year of Life, Now Disappearing; (2) Multiple Recurrent Papilloma in Adult; (3) Laryngeal Carcinoma, Laryngectomy Case and Specimen, by Dr. C. W. Richardson, Washington, D. C.; A Case of Stammering Illustrating the Importance of Early Treatment, by Dr. G. Hudson-Makuen, Philadelphia, Pa.; The Results Obtained from the Radical Operation for Chronic Purulent Otitis Media, papers by Dr. Edward B. Dench, New York, and Dr. S. MacCuen Smith, Philadelphia, Pa.; The Frequency of Involvement of the Venous Sinuses and Jugular Vein, in the Purulent Otitis Media of Infants and Young Children, with Suggestions as to Treatment, by Dr. Arthur B. Duell, New York; The Closing of the Mastoid Wound by Means of a Blood Clot, by Dr. Frank B. Sprague, Providence, R. I.; A Modified Blood Clot in Aural Surgery, by Dr. William S. Bryant, New York; A Report of a Case of Mastoiditis and Temporoparietal Abscess. Operation, Recovery, by Dr. Seymour Oppenheimer, New York; (Thesis) Herpes Zoster Auris, by Dr. Derrick T. Vail, Cincinnati, Ohio; Symposium—The Treatment of Tuberculosis of the Upper Air Passages and the Ear: (1) Medicinal, by Dr. William C. Bane, Denver, Colo.; (2) Surgical, by Dr. Robert Levy, Denver, Colo.; (3) Climatic, by Dr. Wolff Freudenthal, New York; Report of a Case of Purulent Inflammation of the Antrum of Highmore, by Dr. Irving E. Kimball, Portland, Me.; The Use of the X Rays in Locating Foreign Bodies in the Oesophagus and Their Aid in the Removal Thereof, by Dr. George F. Keiper, Lafayette, Ind.

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

May 24, 1906.

1. Typhoid Fever in the City of New York During 1905,
By JOHN S. BILLINGS, JR.
2. Remarks on the Infections of Joints,
By ROBERT W. LOVETT.
3. The Teaching of Hæmatology,
By RALPH C. LARRABEE.
4. Pruritus Ani: Its Ætiology and Treatment,
By T. CHITTENDON HILL.
5. A Case of Psoriasis Cured by Laparotomy and Curet-
tage,
By CHARLES P. SYLVESTER.

1. **Typhoid Fever in the City of New York During 1905.**—Billings describes the sanitary supervision of typhoid fever in the City of New York, which is under the care of the division of communicable diseases of the department of health. He comes to the conclusion that the majority of cases of typhoid fever in New York are due to infected water. The grounds for such belief he sums up as follows: 1. By exclusion. Investigation of the city's supply of milk, oysters, etc., has so far failed to reveal enough to account for the number of cases occurring in the city. 2. Distribution of cases into areas corresponding to different sources of water supply. 3. Ample opportunity afforded for infection in the various watersheds. 4. Suppression of outbreaks by the boiling of all drinking water and milk. The remedies for this state of affairs can be put in a few words: 1. Isolation and protection of all sources of water supply. 2. Introduction of filtration systems. This has been strongly and ably urged by Dr. Thomas Darlington, president of the department of health, in a report to Mayor McClellan. 3. Education of the medical profession and public, outside of as well as in the city, as to the necessity of the immediate sterilization of all typhoid excreta. Could an efficient system of filtration of the water supply of New York city be introduced, there is every reason to feel confident that the death rate of typhoid fever of Greater New York would sink from 16 per 100,000 to 5 per 100,000 at the most. Such has been the result of the introduction of filtration in the large continental cities—Berlin, London, etc.—and it is due to such filtration and to nothing else. Typhoid fever is a preventable disease. The mode of prevention seems clear; it is little short of criminal if the community fails to act.

2. **Remarks on the Infections of Joints.**—Lovett divides acute joint infections into four groups: 1. Acute osteomyelitis of the articular end of one of the long bones involving the joint secondarily. 2. Acute suppurative synovitis or joint abscess. 3. Acute plastic synovitis leading to joint obliteration. 4. Acute serous synovitis. Acute infections of the joints of undoubted bacterial origin occur in all grades of severity in connection with many infections. As a rule, any one of two or three types of joint inflammation may occur in connection with any one infection, no one type of joint disease constantly accompanying any one infection. In many cases the source of infection cannot be established, and in such cases the importance of remembering the function of the tonsils and the presence of pyogenic bacteria in the mouth as a ready source of infection is of importance. That acute articular rheumatism is an infection seems probable from bacterial and especially from clinical evidence, but this cannot yet be regarded as definitely proved.

3. **The Teaching of Hæmatology.**—Larrabee describes the methods employed at Tufts College Medical School in teaching hæmatology, and says that in arranging instruction in hæmatology, it must always be borne in mind that the subject is a practical one. A study of the catalogues of a number of medical schools will lead one to suppose that laboratory instruc-

tion in this branch is quite frequently given only in connection with laboratory departments like pathology or chemistry. In some schools it forms part of special departments of clinical microscopy or clinical pathology. It seems far better that the subject should be taught as a clinical one by the department of clinical medicine. If the student is not taught to make blood examinations by those he looks up to as his teachers in practical matters, he will never use his laboratory technique in his own practice. This is a matter of the greatest importance. If the student could see in the hospital clinic every case whose blood he examines in the laboratory it would be greatly to his advantage. For obvious reasons this is impossible, but it should be tried to be brought about as often as possible.

5. **A Case of Psoriasis Cured by Laparotomy and Curettage.**—Sylvester reports a case of psoriasis, the patient also suffering from a large retroverted uterus with a polypus projecting from the external os, and a small fibroid on the posterior wall of the fundus, and an offensive viscid discharge. The uterus was curetted and the polypus removed, laparotomy performed, the small fibroid removed, and the uterus attached to the anterior abdominal wall. Four days later the eruption seemed much improved, in two weeks was not visible in the face, and two months after the operation there were no visible signs. The psoriasis did not recur.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

May 26, 1906.

1. Some Phenomena of Tuberculosis Infection,
By WILLIAM PORTER.
2. Ways to Combat Evil,
By CHAMPE S. ANDREWS.
3. Hawaii as a Field for Scientific Work in Tropical Medicine,
By E. S. GOODHUE.
4. Diverticulitis (Not Meckel's) Causing Intestinal Obstruction. Multiple Mesenteric (Acquired) Diverticula of the Small Intestine.
By HERMAN C. GORDINIER and JOHN A. SAMPSON.
5. Some Anatomical and Physiological Considerations of the Faucial Tonsil,
By J. GORDON WILSON.
6. A Consideration of Prurigo, Pruritus, and Some Common Itching Dermatoses,
By OLIVER S. ORMSBY.
7. The Treatment of Lobar Pneumonia,
By E. RUSSELL ZEMP.
8. Dyspepsia in Elderly Individuals,
By JAMES S. MCLESTER.
9. Five Cases of Meckel's Diverticulum,
By O. M. GILBERT.
10. A Portable Ration for Soldiers in Battle and on the March,
By LOUIS L. SEAMAN.

3. **Hawaii as a Field for Scientific Work in Tropical Medicine.**—Goodhue describes certain tropical diseases which occur in Hawaii, among them urinaria, which seems to have been brought to Hawaii by Puerto Ricans, bilharzia, bubonic plague, cholera, beriberi. Filariasis is not found in Hawaii. It would be interesting to follow up these diseases, their ætiology, and the influence upon the people. Among other diseases are mentioned syphilis and tetanus neonatorum among the Japanese. It is interesting to note that scarlet fever is absolutely absent, while rheumatic fever, erysipelas, rhachitis are rare, and it is a question if pertussis, measles, chickenpox, smallpox, German measles, diphtheria, or mumps can be transferred and under what modifications.

4. **Mesenteric Diverticulitis.**—Gordinier and Sampson report a case of intestinal obstruction due to an inflamed intramesenteric diverticulum of the small intestine, causing an angular bending of the intestine and obstructing its lumen. The authors are of the opinion that acquired diverticula of the small intestine occur much more frequently than the autopsy records show, and undoubtedly have often caused minor symptoms and even occasionally endangered life, while the true cause of the trouble was not recognized. These diver-

ticula are usually multiple, and long areas of the intestine may be involved, even the entire length of the small intestine. They consist of hernial protrusions of the mucosa and submucosa through a weakened place in the intestinal wall, and they usually escape alongside of the bloodvessels penetrating the intestinal wall at the mesenteric border, thus pushing between the two folds of the mesentery. Their usual situation, between the folds of the mesentery, renders them less likely to undergo pathological changes than diverticula hanging free in the peritoneal cavity or attached to the abdominal wall. Also the fluid contents of the small intestine renders them less of a menace than similar diverticula of the large intestine. When secondary pathological changes occur, thus endangering the welfare of the individual, operative treatment may be indicated. The acquired diverticula of the large intestine may arise from any portion of its circumference and have been most frequently found in the sigmoid flexure. They have been more frequently observed than similar ones of the small intestine, they are usually multiple and consist of hernial protrusions of the mucosa and submucosa through a weakened spot in the intestinal wall. As the contents of the large intestine are harder than those of the small, and as these diverticula occur more frequently on the free border of the intestine than do those of the small, they are more apt to undergo secondary pathological changes.

5. Some Anatomical and Physiological Considerations of the Facial Tonsil.—Wilson speaks of the palatine tonsil in this paper. Its normal size is hard to determine, since few have escaped some irritation and inflammation. Its activity has been demonstrated at the end of fetal life, not only by the multiplication of lymphocytes in the follicles, but by the infiltration of leucocytes into the overlying epithelium. It is well developed at the end of the first year, but apparently does not reach maturity till the fifth year. The tonsil is enclosed in a capsule of connective tissue, from which the capsule bands go off between the lymph follicles in which lie the bloodvessels and lymphatics. The blood supply comes from the facial artery, either through a distinct tonsillar artery or more commonly from the tonsillar branch of the facial. In studying the secretion from the tonsil, the first fact that presents itself is that we have here a definite organ actively engaged in the production of lymphocytes. From the follicles the lymphocytes may pass either directly into the lymphatic system, or through the mucous membrane into the mouth. In regard to the first of these they do not appear to differ in any way from those secreted by other follicular glands. In regard to the secretion into mouth we have no definite knowledge. It seems probable that the lymphocytes have already in the tonsil fulfilled partly their physiological function, and that their extravasation may be more of the nature of an excretion than a secretion.

7. The Treatment of Lobar Pneumonia.—Zemp observes that, while no drug is curative in the treatment of lobar pneumonia, we possess the means of saving many patients who would certainly die if left alone to Nature. He then describes the general management: Isolated rest in bed in recumbent posture until several days after the crisis, even when food is administered; abundance of sunshine and fresh air, strict diet of milk, broths and egg water, liquid beef; plenty of cold water at stated intervals, while the bowels are kept open; this is all the treatment that a large number of patients really need. Symptomatic treatment consists of control of the pain, fever with special attention to cardiac failure—whiskey, digitalis, strychnine, but not nitroglycerin, the use of which the author condemns; cyanosis; nervous symptoms; cough; and vomiting. There is no specific drug; perhaps the nearest approach to it is the hypodermic injection of quinine. As pneu-

monia is an infectious disease, every precaution should be taken to prevent its spread, and there is no reason why it should not be included in the list of diseases to be reported to the board of health.

8. Dyspepsia in Elderly Individuals.—McLester calls the attention of the reader to cancer of the stomach in elderly individuals. Ordinary indigestion is almost always due to some faulty habit of diet, the quality or quantity of the food, or else the manner of taking it is wrong. Such habits are acquired in youth or early adult life, and the resulting dyspepsia quickly follows. This dyspepsia may become acute in old age. Such a patient may have cirrhosis of the liver, or chronic interstitial nephritis, or cancer of the stomach. This fact should not be overlooked in making a diagnosis.

9. Five Cases of Meckel's Diverticulum.—Gilbert says that he found in a little less than one hundred autopsies five cases of Meckel's diverticulum, being over five per cent. In two of his cases this condition caused death, although in one of them the peritoneal adhesion from the former attacks of appendicitis was also a factor. All the diverticula were between two and one half and four feet from the ileocaecal junction. From this observation the author concludes that diverticulum troubles are more common than generally supposed, and should be borne in mind as one of the not uncommon causes of intestinal obstruction.

MEDICAL RECORD.

May 29, 1906.

1. Heart Failure as the Result of Deficient Food,
By ALEXANDER HAIG.
2. Syphilitic Lesions of the Joints in Hereditary and Acquired Infections,
By ROBERT W. TAYLOR.
3. Syphilitic Arthritis, By HENRY W. FRAUENTHAL.
4. Conservatism in the Treatment of Senile Hypertrophy of the Prostate, By JOHN VAN DER POEHL.
5. Gonococcal Infection in Woman,
By EGBERT H. GRANDIN.
6. Gigli's Operation, with Report of a Case from Private Practice,
By J. A. SCHMITT.
7. The Occurrence and Prognosis of Pneumonia as Studied at the Lincoln Hospital, By LOUIS FAUGÈRES BISHOP.

1. Heart Failure as the Result of Deficient Food.—Haig states that an insufficient amount of food may result in heart failure, it may come on so insidiously that it is often far advanced before it is in any way recognized by the sufferer. It is known that a well nourished patient may starve for thirty, forty, or even sixty days without serious signs of collapse if due care is exercised; the physiology of this apparently being that the essential structures—the muscles of the heart and cells of the brain—are nourished at the expense of the other structures from which a definite daily quantity is taken to provide their supplies of albumin. This may be called acute starvation, and if its duration is brief, it does little harm, because the heart muscle and brain cells are sufficiently provided for meanwhile. But if a condition of slow, steady and constant deficiency of food is substituted, there comes a time when not only do the less important tissues suffer, but the heart muscle and brain cells begin to suffer with them to some extent. No doubt before this occurs many other tissues of the body, especially the muscles, have been largely drawn upon to provide the necessary nourishment. But after this has lasted for weeks, months, or it may be a year or more, there comes a time when the muscle of the heart participates in the general malnutrition and anæmia, and this is, or may be, a rather serious condition, because the actual continuation of life depends from moment to moment upon the entire functional integrity of that organ. The author prescribes nine grains of albumen per day for each pound of body weight.

2. Syphilitic Lesions of the Joints in Hereditary and Acquired Infections.—Taylor says that syphilitic

affections of the joints present many and varied peculiarities in their evolution, course, extent, and ultimate results. In the early stage of hereditary syphilis the gravamen of attack does not, as a rule, expend itself on the joints, but upon the shafts of the bone, and their terminal portions or epiphyses. In the growing bone the length is accomplished by true increase in size of the shaft or diaphysis into the cartilaginous layer which exists at its end between the terminal portion or the epiphysis. This part is called the diaphyso-epiphyseal junction, and it is here that in hereditary syphilis the morbid process is developed in any of the long bones. In the early days this lesion, known as osteochondritis, is the predominating morbid osseous change. Usually there is no synchronous or complicating joint involvement, except in the parts where the epiphysis is very narrow and the synovial membrane very near or contiguous to the seat of inflammation. As a rule, therefore, articular lesions are not found in recent hereditary syphilis. As the disease grows older the early osteochondritis changes into features which resemble those of the acquired infection. Then periostitis, osteitis, inflammatory and gummatous, with more or less typical synovitis are encountered. In the acquired infection joint inflammation or synovitis are found early and late, which may be mild and transitory or severe and chronic. The author illustrates this statement by the history of two cases.

3. Syphilitic Arthritis.—Fauenthal shows that no doubt many of the cases of acute arthritis in congenital and acquired syphilis, occurring in what is known as the early second stage, are treated as simple rheumatism. The failure properly to diagnosticate the true pathology of the lesion as syphilitic and treating it as such, may result in a later secondary invasion of the tubercle bacilli or other bacteria, with their comitant sequelæ. Late secondary and tertiary arthritis may be polyarticular and bilateral. The diagnosis of congenital syphilis mostly depends upon the following: 1. Finding of *Spirochæta pallida* in the first and second stage; 2, the parental history; 3, the appearance of the skin, either from the scars of eruption, or the peculiar white, waxy color; 4, in the eye the interstitial keratitis is the most frequent symptom; 5, the teeth have certain notched defects of the inner upper incisors; 6, labyrinthine or central deafness; 7, ulcerative destruction of the soft palate; 8, enlargement of the spleen; 9, epiphysitis; 10, general lymphadenitis; 11, sclerotic atrophy of the testicles. A doubtful diagnosis can always be confirmed by a course of antisyphilitic treatment. As to the time of the appearance of congenital syphilis in the syphilitic parents bearing apparently healthy children, Fournier states that of 282 such cases, 251 occurred between the third and twenty-eighth years. In congenital syphilis the most frequent lesions are in the eye, while in the acquired form the most frequent lesions are in the skin. In acquired syphilitics we may class the lesions as follows: Arthralgia synovitis, gummatous disease, and arthritis. Failure to recognize the syphilitic origin of arthritis exposes the patient to the danger of secondary invasion of pathogenic organisms. If syphilitic arthritis is promptly diagnosticated and properly treated, a complete cure is easily effected, while if left untreated or improperly treated, incurable changes may result, or secondary invasion of other bacteria may occur.

4. Conservatism in the Treatment of Senile Hypertrophy of the Prostate.—Van der Poehl favors catheterism. He says that catheterism, properly applied and at the right time, renders unnecessary many operations, without which patients would have been as well, if not better off. Modern technique and advance in the knowledge of prostatectomy make operation now justifiable which previously would not have been, with the former statistics and results to guide us. In mod-

erately enlarged prostates, with slightly increased frequency in micturition and a moderate residuum, no local treatment is necessary, excepting it be massage, and then only in the glandular form. Prophylactic or preventative prostatectomy cannot be recommended, as it may be a useless operation, looking toward an infirmity which may never arise. In the second stage, with a residuum of four ounces or over, after milder means have failed, the catheter is indicated; then sometimes patients will return to the first period; or if not, we can at any rate avoid the third. With large residuum and sclerotic prostate, it may be advisable to operate. In acute retentions we must get all we can from the catheter before intervention, as catheterism, though impossible in a number of cases, can in others definitely reestablish the urinary function for many years, no matter what the state of the prostate. In the third stage, if not too far advanced, catheterism may place the patient in the second stage again. But if impossible or inadvisable for any reason, operation should be performed, if kidneys and general condition warrant it.

THE BRITISH MEDICAL JOURNAL.

May 12, 1906.

1. Autointoxication: Its Relation to Certain Cardiovascular Disorders (*Goulstonian Lectures, I*),
By H. B. SHAW.
2. The Importance of Anæsthesia by Lumbar Injection in Operations for Acute Abdominal Diseases,
By H. P. DEAN.
3. On the *Spirochæta Pallida* and Its Variations, etc.,
By A. MACLENNAN.
4. A Fatal Case of Acute Cardiac Beriberi,
By H. WRIGHT.
5. Dionine in Ophthalmic Practice,
By J. HINSELWOOD.
6. The Local Anæsthetic Action of Stovaine,
By D. MCKENZIE.

1. Autointoxication and Blood Pressure.—Shaw, in the first of his Goulstonian lectures, states that his observations confirm the view that with increasing years there is generally a rise of arterial pressure. In disease of various kinds the blood pressure shows a great variation both in each individual and also in comparing one case with another. By means of the sphygmomanometer it is possible to establish clinically a group of cases in which there is maintained high blood pressure, but little or no signs of arteriosclerosis or of renal disease; cardiac hypertrophy may be present to some extent. But it cannot be said for certain that renal disease is absent in these cases. There is a general admission that the explanation of increased arterial tension of cardiac hypertrophy independent of valvular disease and obstruction of the pulmonary circuit is not satisfactory. The writer has studied the effects of injection of extracts of various organs upon the blood pressure. He found that though the extracts of other organs than the kidney occasionally cause a rise of pressure, yet this rise is small and of short duration, whereas the kidney extract effect of a rise, though varying within considerable limits, is a striking feature, and the same may be said of the duration in which such rise takes place. The extracts of liver and brain show a much greater tendency to cause a fall of blood pressure, and even then such fall is generally of very brief duration.

2. Spinal Anæsthesia.—Dean's experience of stovaine anæsthesia by intraspinal injection in acute general peritonitis has impressed him profoundly with the great value of this anæsthetic. Stovaine is the chlorhydrate of one of the animal alcoholics; it can be used in all cases where cocaine is employed. Its chief physiological difference from cocaine is that it is a vasodilator, not a vasoconstrictor, and further it seems to have a tonic action on the heart. The lumbar spinal canal is entered between two lumbar vertebræ (gen-

erally the third and fourth) with a rather small trocar and cannula. The patient should be in the sitting posture with the body bent well forward. The minimal dose of stovaine that can be given without fear of respiratory paralysis is 0.05 gramme. The anæsthesia commences with a numbness of the perinæum, feet, and legs in about three minutes from the injection. By the end of five minutes the patient has lost the power to lift the legs, within seven minutes he is usually anæsthetic up to the groin, and the maximum effect is produced within ten minutes. The remarkable feature of intraspinal stovaine anæsthesia is that surgical shock seems to be avoided. In many cases a slight headache comes on at the end of the operation, but passes off within a few hours.

3. *Spirochæta Pallida*.—MacLennan has examined preparations from over fifty cases of syphilis for the presence of the *Spirochæta pallida*. Forty of the cases were females, and in them the positive results were comparatively few—eight positive. In most of the cases the sores, the secondaries, the glands and the blood were all examined by various methods, stains, etc. Generally it was found that the method of fixation or the stain employed did not make any difference, as where spirochætae were present they were demonstrable by all the methods. In every case smaller bodies, similar to the *Cytorrhycles luis* of Siegel, were found. The *Spirochæta pallida* is difficult to stain, and requires special methods; gentian violet is the best stain. The comparative scarcity or entire absence of the spirochæta from obviously syphilitic sores almost necessarily precludes this germ from being the sole infective agent. It probably only denotes one stage in the history of an organism, while the cytorrhycles luis probably denotes another. It is also possible that there is more than one organism responsible for the series of symptoms included in syphilis. It is a striking fact that the symptoms of syphilis during the roseolar stage are so slight, yet the blood and tissues are more or less contaminated by hordes of microorganisms. Such symptoms as are present are not likely, therefore, to be due to a toxine elaborated by those germs, but to the germs themselves.

6. *Stovaine*.—McKenzie has used stovaine as a local anæsthetic in fifty-seven throat, nose, and ear operations. He sums up his results as follows: Stovaine equals cocaine in local anæsthetic action, does not induce general toxic symptoms in ordinary anæsthetic doses, and, like cocaine, induces ischæmia of erectile mucous tissues. It should not be left in contact with mucous surfaces for longer than fifteen minutes, lest its powerful irritant action be followed by sloughing and ulceration.

LANCET.

May 12, 1906.

1. Autointoxication: Its Relation to Certain Disturbances of Blood Pressure (*Goulstonian Lectures, I*),
By H. B. SHAW.
2. A Case of Primary Intestinal Anthrax in Man: Septicæmia: Hæmorrhagic Leptomenigitis.
By J. H. TEACHER.
3. A Note on the Technique of Colon Irrigation in a Case of Appendicostomy for Colitis,
By W. EWART.
4. Two Unusual Cases of Difficult Labor,
By H. T. HICKS.
5. Invisible Surgery,
By J. L. A. AYMARD.
6. Bronchopneumonia and Pyæmia,
By I. MCKENZIE.

2. *Intestinal Anthrax*.—Teacher reports an example of that form of anthrax which is the most common in animals, but the rarest in man—viz., that in which infection occurs through the alimentary canal. Clinically, the case was one of acute illness terminating fatally within twenty-four hours, the prominent features of which were headache, cerebral irritation manifesting itself in restlessness, delirium, and finally convulsions. There was also slight abdominal tenderness

which might have suggested peritonitis, but there was no pyrexia. The history afforded no hint as to the nature of the disease. At the post mortem examination the case presented the features of an acute septicæmia and early peritonitis which appeared to spread from a hæmorrhagic lesion of the small intestine with ulceration and necrosis internally and signs of an infective process extending up the mesentery. The nervous phenomena were explained by the discovery of a diffuse hæmorrhagic condition of the pia arachnoid, which microscopical examination demonstrated to be an early meningitis due to the bacillus anthracis.

3. *Colon Irrigation Through the Appendix*.—Ewart reports the case of a woman, aged forty-four years, convalescent after upwards of twelve months' diarrhoea, and wasting from mucous colitis. After ineffectual medical and dietetic measures, appendicostomy was performed most successfully, and the colitis treated through the appendix. Various irrigation fluids were tried, none of which stopped the profuse discharge of blood stained mucus. This ceased, however, two weeks after beginning a course of a simple daily injection of two ounces of liquid paraffin into the cæcum, charcoal being given by the mouth. The modus operandi of injection and irrigation of the lower ileum is simple and easy. The catheter is bent (not too sharply) to about 110° at a point two and a half inches from its tip. It is to be introduced not sagittally as when it is intended for use in the cæcum, but inwards and downwards as well as backwards in the direction of the nearest spot on the brim of the pelvis. The assurance that the catheter has entered the small intestine is given by the greater length introduced (maximum nine inches), by the subjective sensations in the hypogastrium of the patient, by the direct palpation through the abdominal wall, and by skiagram. Systematic lavage of the lower ileum, such as might be suitable for ulcerative typhoid fever, is best performed with two tubes instead of the single catheter. The anatomical relation of the ileocæcal valve to the brim of the pelvis is not liable to much variation, and that which exists between the valve and the entrance to the appendix is also fairly constant.

5. *Invisible Surgery*.—Aymard describes his new method of skin incision without leaving a scar. In brief, it consists of the simple operation of dividing the skin upon the slant in contradistinction to the present method of division at right angles to the surface. Special hollow ground scalpels are used, but only for the purpose of dividing the skin, the ordinary scalpels being used thereafter. There must be one clear cut without force, so that the scalpels must be kept very sharp and treated with the greatest care. The skin should be reasonably stretched in all directions by assistants if this is not already the case by some underlying tumor. The skin as a rule will give a flap a quarter of an inch wide, but in addition at least as much fat flap, and even more where the fat is excessive. Fat makes firm, rapid union, and is therefore important. The knife should make one clean sweep down to the fascia, which in turn should be divided as far under the base of the upper flap as possible, and on no account should the lower flap be dissected off this fascia. The upper flap is now enclosed in warm, dry sterile lint and secured far back with tissue forceps. The lower flap being retracted on the fascia is treated in a similar manner, and the operation proceeds. At its close comes the question of adjustment of the skin flaps. The tendency of the ordinary applied dressing is to cause separation rather than approximation. Perfect healing only follows properly applied pressure, and the greater the pressure within limits the more perfect the contact. Granulation growth can be controlled by pressure; it is reduced to a minimum and the scar is hidden away in the depths of the skin. The

author largely uses a sucker, but even if one is used the following delicate but most important manipulation must be carried out. The object is to stretch the delicate apex of the upper flap; as the least force will tear it off, great care must be observed if forceps are used. The author gently presses the edge between the finger and thumb, when it gradually yields; at the same time the lower flap is stretched and held in place by forceps. The delicate edge is then carefully spread in its proper position, the accuracy of which is best tested by a good, large magnifying glass. The subsequent object of dressing is to keep this edge in accurate position. Accidental wounds of the face should be treated by converting the accidental cut to one on the slant.

MUENCHENER MEDIZINISCHE WOCHENSCHRIFT.

May 1, 1906.

1. Ophthalmia Neonatorum and the One Per Cent. Solution of Silver Nitrate. By Professor LEOPOLD.
2. The Formation of Specific Leucotoxins in the Blood Serum as the Result of the Use of X Rays in Leucæmia, Pseudoleucæmia and Lymphosarcoma (*To be continued*). By CARL KLIENEBERGER and HEINRICH ZOEPPRITZ.
3. Diseases of Men and Animals Due to Protozoa in the Blood in India and German East Africa, By ADOLF TREUTLEIN.
4. Why and Within What Limits are Anæsthetics Efficacious in Inflammatory Processes? By O. ROSENBACH.
5. Lumbar Anæsthesia with Novocaine in Gynæcological Operations, By Professor OPITZ.
6. The Staining of Spirochæta Pallida, By F. R. M. BERGER.
7. Transmission of Diphtheria Through a Third Person, By Professor SITTLER.
8. Detection of Sugar in the Urine by Means of a Modification of Trommer's Test. By KARL SIMROCK.
9. Autointoxication in Stenosis of the Pylorus, By RUDOLF MICHAELIS.
10. Cerebral Pneumonia in Children, By A. BITTORF.
11. Pneumonia Lasting But One Day, By M. LOEB.
12. Hebotomy, By LUDWIG SEELIGMANN.
13. Behavior of the Pectoral Fremitus in Croupous Pneumonia, with Remarks on the Râles. By J. ARNETH.

1. **Ophthalmia Neonatorum.**—Leopold claims that it is certain that both early and late infection of the eye of the infant can be prevented by the maintenance of proper care and technique throughout the confinement, and considers the instillation of a one per cent. solution of silver nitrate a sure, harmless, and simple means of prophylaxis.

3. **Diseases Due to Protozoa in the Blood.**—Treutlein has met with three forms of disease in India and East Africa which were due to the presence of as many varieties of protozoa in the blood, viz., the rhizopoda, which include the amœbæ which produce dysentery, the mastigophora, or flagellates, the family to which belongs the trypanosoma, the cause of the sleeping sickness, and the sporozoa, to which belongs the plasmodium of malaria.

4. **Anæsthetics Efficacious in Inflammation.**—Rosenbach uses the term anæsthetics in a broader sense than that in which we are accustomed to use it, so as to include the drugs which we would be more likely to call narcotic or sedative. He holds that the beneficial effect of such drugs in the treatment of inflammation is due not simply to the relief of pain, but to a reduction of the abnormal inflammatory excitability toward the normal. In other words, they have a tonic, regulative action on the inflamed tissues, and therefore are of benefit in cases of inflammation attended by little or no pain.

5. **Lumbar Anæsthesia with Novocaine.**—Opitz reports twenty-five cases of major gynæcological operations performed under anæsthesia produced by the injection of novocaine into the lumbar portion of the spinal canal. He used from two to three c.c. of a five per cent. solution, with adrenalin added, and was great-

ly pleased with the results. The duration of the anæsthesia varied from forty minutes to several hours.

7. **Transmission of Diphtheria Through a Third Person.**—Sittler reports two cases in which diphtheria was communicated from one person to another by means of a third who remained uninfected.

10. **Cerebral Pneumonia in Children.**—Bittorf reports two cases of pneumonia in which the cerebral symptoms were extremely pronounced. A few similar cases have been reported, and have been called cerebral pneumonia.

BERLINER KLINISCHE WOCHENSCHRIFT.

April 30, 1906.

1. The Occurrence of Isolated Abscesses in the Late Stage of Perityphlitis, By M. JAFFE.
2. Great Anæmia Without Regeneration of the Bone Medulla, By HANS HIRSCHFELD.
3. Causes of Coated Tongues, By ROLLIN.
4. Deutschmann's Operative Treatment of Detachment of the Retina, By M. GOLDBAUM.
5. The Superiority of the Combination of Organotherapy with Physical Dietetic and Balneotherapeutic Measures, By A. v. POEHL.
6. Ochronosis, By L. PICK.
7. Morphine Habitues Before the Courts, By H. MARX.

1. **Isolated Abscesses in the Late Stage of Perityphlitis.**—Jaffe ascribes the brilliant results of the early operation for appendicitis to the prevention by that means of the formation of isolated abscesses in various parts of the peritoneal cavity which are found in a very large percentage of the cases operated upon during a late stage of the disease.

2. **Anæmia Without Regeneration of the Bone Medulla.**—Hirschfeld reviews a number of cases in which a severe condition of anæmia had been induced by various causes taken from the literature on the subject, and discusses the theories which have been advanced in regard to the part played in these cases by the medulla of the long bones.

3. **Coated Tongues.**—Rollin regards the empirical consideration of the surface of the tongue as a mirror which reflects the condition of the digestive tract as extremely inaccurate, and at the same time does not seem to feel satisfied with Fleiner's pronouncement that the coating of the tongue has no special signification. He speaks of the different causes which may produce this condition, and discusses the effects produced on it by different conditions of the stomach.

4. **Deutschmann's Operative Treatment of Detachment of the Retina.**—Goldbaum strongly advocates Deutschmann's operation as the method of treatment which has withdrawn this disease from the catalogue of the incurable, and as one which deserves a more extended practice because it has given a percentage of recovery so much larger than any other method of treatment.

ZENTRALBLATT FUER CHIRURGIE.

April 28, 1906.

- 1: The Ætiology of Punctate Hæmorrhages in the Appendix Removed During the Interval, By C. BAYER.

1. **Punctate Hæmorrhages in the Appendix.**—Bayer has looked into the question of the punctate hæmorrhages so frequently seen in the mucosa of the appendix which is removed in the interval. He differs from the view commonly held that these minute hæmorrhages are due to squeezing of the organ by the instruments used in the operation. He found in a recent case in which he handled the appendix most carefully that the hæmorrhages are apparently due to the ligation of the veins of the mesentery which does not always exclude the entrance of arterial blood to the organ, the mesentery always being tied before the appendix is attacked.

ZENTRALBLATT FUER GYNAEKOLOGIE.

April 28, 1906.

1. Treatment of Dystocia Due to Myoma of the Uterus, By ESCH.

2. A Case of Complete Incarceration of the Sigmoid Flexure with Secondary Peritonitis, Caused by the Twisted Pedicle of a Parovarian Cyst.
By H. VON DERERA.
3. A Suggestion for the Operative Sterilization of Women.
By G. FRIEDEMANN.
4. A Tear of the Fornix Twice in the Same Individual.
By J. SAKS.
5. The Prophylaxis of Catheter Cystitis.
By W. P. RICHTER.

1. **Myomata Causing Dystocia.**—Esch reports two cases in which birth was made impossible by the impaction of myomata in the pelvis. In both cases Cesarean section was done, in one an amputation of the uterus was added on account of the situation of the growth. Both mothers and children recovered. Esch compares these favorable results with the untoward results obtained by high forceps and version in similar cases.

2. **Sterilization by Operation.**—Friedemann first compresses the tube with Mikulicz's enterothripter. The compressed part is ligated with catgut, the mucosa having been completely destroyed by the compressor. In time a solid fibrous band takes the place of the destroyed mucosa so that the lumen of the tube can never be restored.

GAZETTA DEGLI OSPEDALI E DELLE CLINICHE.

April 15, 1906.

1. Celebration in Honor of Professor Guido Bacelli.
2. The Policlinico of Rome.
3. Address in Honor of Guido Bacelli in the Chamber of Deputies.

1. **Guido Bacelli.**—The present number of the *Gazetta* is devoted entirely to Professor Guido Bacelli, the Italian clinician, statesman, and educator, the crowning of whose career is the completion of the magnificent institution known as "Il Policlinico," which has just been opened in Rome. This institution was inaugurated in the presence of all the professors of clinical medicine and of pathology of the Italian universities, the Mayor of Rome, the Minister of Public Instruction, the Rector of the University, and other academic dignitaries. The King of Italy presided at the ceremony, and the following foreign representatives delivered addresses: Riehl, representing Austria; De Mayer, Belgium; Bouchard, France; Livierato, Greece; MacAlister, England; DeBildt, Sweden; and Koranyi, Hungary.

RIFORMA MEDICA.

April 14, 1906.

1. A Case of Dupuytren's Disease Cured by Local Medical Treatment.
By GUSTAVO FERRARI.
2. Experimental Contribution to the Pathogenesis of Round Ulcer of the Stomach.
By GIUSEPPE ZIRONI.
3. Erb's Disease.
By ARMANDO TESTI.

1. **Medical Treatment for Dupuytren's Disease.**—The case reported by Ferrari occurred in a man, aged seventy years, who first noted the prodromal symptoms of the trouble in May, 1904, in the shape of a slight difficulty in extending the middle and annular fingers of the right hand. These fingers gradually became flexed, until at the end of a month they touched the palm of the hand. Nothing abnormal could be felt either in the skin or the tendons, but the first interphalangeal joints of these two fingers were slightly enlarged. An operation was refused. The treatment consisted of frequent massage of the entire right hand, and especially of the affected fingers, and in holding the hand for several minutes under the jet of a public fountain every night. With these simple means some improvement was obtained, which gradually increased until in August, 1905, the man was completely cured and now is using his right hand with perfect freedom. The origin of the contraction in this case could not be shown to have been a local traumatic one, nor could a lesion in the medulla be thought of, as there was a total absence of all symptoms. There was but little

in the case to make one think of a disturbance of metabolism, although the patient was somewhat obese and some of his digital joints were rather thickened. A disturbance of metabolism, however, is the only cause to which this case can be ascribed.

2. **Round Ulcer of the Stomach.**—Zironi experimented on animals with a view of obtaining a clue as to the cause of round ulcer of the stomach. He resected the subdiaphragmatic portion of the vagus in fourteen rabbits, following the idea first suggested by Talma, who in 1890 produced gastric ulcers within a few hours in rabbits by stimulating the vagus nerve at the neck by means of the Faradic current. In 1901 Jizerin, a pupil of Talma, produced chronic gastric ulcers by resecting the vagus beneath the diaphragm. Zironi's experiments, which he communicates in this preliminary note, do not lead him to any definite conclusions, as a larger number of animals is required before a positive statement can be made as to the influence of the vagus upon the formation of gastric ulcers. Zironi succeeded in producing ulcerations in about one half of the fourteen rabbits operated upon, which were killed at various intervals after the operation, ranging from eleven to sixty days. This result coincides with that of Jizerin, but is opposed to the conclusion of Donati (*Sperimentale*, March-April, 1904, page 327). It is impossible, as yet, to say whether the ulcers thus produced tend to heal rapidly, but if this be the case these ulcers lack an essential clinical feature of chronic ulcers of the stomach, which do not tend to heal.

ROUSSKY VRATCH.

April 8, 1906.

1. Pathological Argumentativeness and Argumentative Psychosis.
By S. A. SUKHANOFF.
2. Typhoid Strumitis.
By G. I. BARADULIN.
3. Russian Buddhists and the So Called Medicine of the Thibet.
By L. B. BERTENSON.

1. **Argumentative Psychoses.**—Sukhanoff presents a study of a special form of psychoses which he classes in the group of paranoias of primary insanity, and which are manifested in the beginning by a morbid tendency towards disputing and arguing over every subject. Such people are extremely narrow in their views, but at times give the impression of great intellectuality. They are great talkers and seek every opportunity to argue. They are stubborn, selfish, and filled with a sense of their own importance, and are extremely sensitive to criticism. From this there is but a transition to delusions of persecution and of grandeur. A variety of forms may be distinguished in this group of psychoses, including delusions of royal descent, delusions as to inventions and discoveries, a tendency to constant litigation, quarreling, erotomania, etc. Many such persons affected go about in ordinary walks of life and are merely considered as "cranks."

2. **Strumitis of Typhoid Origin.**—Baradulin describes a case of strumitis of typhoid origin in a man, aged thirty-six years. This is a rare complication of typhoid fever, consisting of an inflammation of the thyroid gland, due to the typhoid bacillus or to its chemical products. But few cases are recorded in literature. In the case described an abscess developed in the right half of the gland, its contents being a light brown fluid containing scanty cells and a great deal of detritus. Cultures of the typhoid bacillus were obtained from this abscess, which was incised under chloroform and drained.

FORTSCHRITTE DER MEDEZIN.

March 20, 1906.

1. The Medical Treatment of Subacute and Chronic Inflammations of the Joints.
By W. SCHULHOF.
2. Experimental Investigations on the Physiology and Pathology of the Renal Functions.
By S. WEBER.

3. *Treatment of Acute Intussusception*, By T. GUTHRIE.
4. *Movable Kidneys in Women*, By HEIDENHAIN.

1. **The Medical Treatment of Subacute and Chronic Inflammations of the Joints.**—Schulhof, who, as a disciple of Winternitz, uses balneotherapy, quotes that authority to support his argument as to the value of internal medication, in addition to hydrotherapy, and aside from any mechanical treatment which may be indicated. Infectious disease of the joints is of common occurrence, and is often very rebellious to treatment. Its divisions include: (1) Cases in which there are tuberculous processes in various organs, this disease being also suspected in the joints. (2) Those in which there is connection with disease of the nose or pharynx, or with febrile angina. (3) Those in which there is a basis of gonorrhœa or syphilis. (4) Those in which the character and mode of entrance of the infection cannot be determined. The infectious nature of a case being determined, it is rational to use substances which are destructive to microbes. Creosote has therefore been given with advantage in such cases, and the author now recommends that thiochol be administered. He prescribes it in pastilles containing one half gramme each, and in a number of cases which he narrates the results were satisfactory.

2. **Experimental Investigations on the Physiology and Pathology of the Renal Functions.**—Weber believes that he has demonstrated by his experiments on dogs into whose blood theophyllin and phloridzin were injected while the dogs were in a normal condition, and into whose blood potassium chromate was injected when they were in a condition of nephritis, that the theory of the physical elaboration of the urine is not correct. By the chromic acid nephritis the epithelia of the canaliculi were destroyed, while those of the glomeruli were uninjured. The phenomena in this induced disease were analogous with those of contracted kidney in human beings, especially the want of concentration of the urine, and seemed to sustain Heidenhain's theory that the urine is a secretion.

3. **Treatment of Acute Intussusception.**—Guthrie finds abdominal section the most valuable of all the methods for treating this condition, after which comes reduction following retrograde distention, air, or warm milk being used for the purpose. The incision must be determined by the location or probable location of the tumor, and the reduction should be effected by pressure upon the entering bowel, not by traction upon the bowel. If reduction is impossible and gangrene has not taken place Jessett's operation is indicated. If there is gangrene the bowel must be excised, or if the patient is in bad condition, an artificial anus may be made.

4. **Movable Kidneys in Women.**—Heidenhain explains the causes of displacement of the kidney. It would take place much more frequently than it does but for the abdominal equilibrium conditioned upon the elasticity of the abdominal walls and the intestine. As these organs become disturbed in their position their relation to the kidneys is changed, and their mobility is increased. Attention is directed to the fact that nephroptosis is the forerunner of enteroptosis. For palpation of the kidney the author prefers the bimanual method, the patient being in a recumbent position, with hips raised and knees bent. One hand of the examiner is to rest in the lumbar region, while the other palpates the abdominal tissues.

AMERICAN JOURNAL OF SURGERY.

April, 1906.

1. *Urinary Examinations for Uric Acid, with Especial Reference to the Detection of Uric Acid Calculi in the Kidney and Bladder*, By L. HEITZMANN.
2. *The Value of Blood Examinations in Obstetrics and Gynecology*, By I. S. WILE.

3. *Gallstones in the Cystic Duct, with Description of a Means of Dislodging Them in Certain Cases*, By L. H. DUNNING.
4. *Common Duct Obstruction*, By J. W. LONG.
5. *Plaster of Paris and How to Use It*, By M. W. WARE.
6. *A Comparative Study of the Various Methods of Terminating Pregnancy and Labor*, By S. MARX.
7. *A Communication Upon a New Method of Intestinal Anastomosis by Means of the Cautery Experiments Upon Dogs*, By R. H. POWELL.
8. *A Case of Appendicitis, with Early Rupture of the Appendix*, By W. W. AXTELL.

1. **Urinary Examinations for Uric Acid.**—Heitzmann states that uric acid is formed in the liver and spleen, but not in the kidneys, the latter organs merely excreting it. It is derived from nuclein and its varying appearances are due to rapidity of crystallization, acidity, concentration, pigment, and temperature of the urine. The diagnosis of stone must not be made from the mere appearance of uric acid sediment in the urine. If uric acid crystals cannot be recognized by the microscope, a drop of caustic potash or soda may be added to the specimen on the slide to dissolve them, and then a drop of acetic acid to make them reappear. A uric acid calculus may be impacted in the kidney substance, in the pelvis of the kidney, in the ureter, or the bladder.

2. **The Value of Blood Examinations in Obstetrics and Gynecology.**—Wile states that blood examinations should be considered as a part of the symptomatology of disease. Such examinations include the determination of the hæmoglobin, total number of red and white cells, and differential count of leucocytes. By the latter the return of the eosinophiles or basophiles to the circulation can be noted. Normal pregnancy produces no changes in the red corpuscles, and eosinophiles are always present. In puerperal sepsis there may be no leucocytosis. In appendicitis, salpingitis, pelvic, or tuboovarian abscess the general rules concerning leucocytosis in pus formation obtain. Operation is indicated if instead of high leucocytosis polynuclear neutrophiles are relatively increasing, and eosinophiles and basophiles are absent. Excepting abscesses intrapelvic conditions cause no leucocytosis, but this condition is caused by septicæmia and hæmorrhage. Syphilis shows lymphocytosis with marked secondary anæmia. In advanced condition of tumor with cachexia leucocytosis is present and indicates malignancy if the increase of leucocytes is rapid. Postoperative leucocytosis excludes typhoid, constipation, neuralgia, and hysteria, and demands immediate attention.

3. **Gallstones in the Cystic Duct.**—Dunning states that the means heretofore used to remove stones from the cystic are the following: 1. Forcing the stones backward into the gallbladder by finger pressure. 2. Crushing the stone in case of stricture and forcing the fragments back, needling and forcing back, dilating the stricture and pressing back. 3. Incision of the duct, removal of the stone and closure of the incision. In a difficult case of cystic obstruction the author adopted the following procedure, the steps being: 1. Pull down and rotate the liver by Robson's method. 2. After emptying the gallbladder enlarge the opening in the fundus if necessary. 3. Have an assistant hold the stone firmly against the opening between the gallbladder and the cystic duct. 4. Bring the opening in the fundus and the one leading to the cystic duct into immediate contact. 5. Slightly snip, if necessary, the edges of the ring surrounding the cystic duct opening, dilating with forceps or with blunt pointed scissors. 6. Complete the cholecystotomy in the usual manner.

6. **A Comparative Study of the Various Methods of Terminating Pregnancy and Labor.**—Marx concludes a very interesting paper as follows: 1. The tendency to dissociate gynecology and obstetrics as specialties is a mistake of modern times in over specializing. Less operating will be done from the gynecological stand-

point if this error is corrected. This is especially true in regard to the various fixation operations. 2. There is too much blind faith in the absolute accuracy of the pelvimeter. To discover irregularities the method is ideal. But we can never measure a pelvis, we can, at best, estimate its diameters.

7. A New Method of Intestinal Anastomosis, by Means of Caustic Experiments Upon Dogs.—Powell believes that the points of this method of operating which are to be recommended are the following: 1. There is no soiling of the peritonæum from intestinal contents. 2. Rapidity of operation. 3. By the time the slough has separated and communication is established firm adhesions will have formed, effectually walling off the peritoneal cavity. 4. The opening can be made as large or as small as may be desired, and will remain patent. The dangers of the operation are the following: 1. The entire thickness of the intestinal wall may not be devitalized, and the operation will then fail of its object. 2. Tissue may be destroyed beyond the area of the surrounding sutures, so that the intestinal contents will escape into the peritoneal cavity upon separation of the slough.

ANNALS OF GYNÆCOLOGY AND PÆDIATRY.

April, 1906.

1. Recent Researches Into the Bacteriology of Peritonitis in Relation to Pelvic Surgery, By P. W. G. SARGENT.
2. Antiseptic Labor, By A. E. GALLANT.

1. Bacteriology of Peritonitis in Relation to Pelvic Surgery.—Sargent dwells upon the importance of the peritonæum which may be infected: 1. Through accidental or operation wounds. 2. By rupture or perforation of a hollow viscus, a cyst, or abscess. 3. By the passage of microorganisms from the foregoing when inflamed, but not perforated. 4. By direct infection of blood extravasated into the peritoneal cavity in too great quantity to be absorbed. 5. By the blood stream as in septicæmic peritonitis. The most important organisms in peritonitis are the *Staphylococcus albus* and colon bacillus, other varieties are of less frequent occurrence. He studies his subject under five headings: (1) Extrauterine gestation. (2) Salpingitis. (3) Inflamed ovarian cysts. (4) Infections connected with pregnancy. (5) Accidental infections. Treatment may be by operation, drugs, or specific serum.

AMERICAN JOURNAL OF OBSTETRICS

April, 1906.

1. The Present Status of Pelvimetry. By H. EHRENFEST.
2. Embolism Following Abdominal Section. By W. CRUSEN.
3. Some Operative Aids in Abdominal Work, By E. A. BALLOCH.
4. The Aseptic Removal of an Infected Fibroid Uterus, By H. A. KELLY.
5. A New Form of Blood Cell, By F. A. STAHL.
6. What Information Can We Obtain from Symptomatology in Gynæcological Cases? By G. T. HARRISON.
7. What Information May We Obtain from Symptomatology in Gynæcological Cases, with Special Reference to Back Ache, By D. BISSELL.
8. Congenital Absence of Lower Third of the Vagina, a Blind Shallow Sac Occupying the Vaginal Introitus. The Creation of a Continuous Vagina, Partly by the Vulvar and Partly by the Abdominal Route, By H. N. VINEBERG.
9. Absence of the Uterus Associated with Bilateral Ovarian Hernia and Vicarious Hæmorrhage, By R. T. GILLMORE.
10. Cancer of the Breast, By I. S. STONE.
11. Typhoid Fever in Pregnancy, By J. T. KELLEY.
12. Associated Nervous Conditions in Gynæcology, with Especial Reference to the Climacterium and Allied States, By S. W. BANDLER.

2. Embolism Following Abdominal Section.—Crusen defines embolism as that form of metastasis in which insoluble substances are transported by the blood cur-

rent and lodged in some part of the vascular system. An embolus may be gaseous, liquid, or solid. The most common emboli are those which are separated from thrombi. Large emboli usually cause speedy death by syncope or asphyxia, small emboli usually run a favorable course. Thrombosis may result, (1) after a prolonged or severe operation; (2) as the result of sepsis in the wound; (3) without either of the above conditions. Pulmonary embolism most frequently result from thrombi in the venous system. The latter are most frequent in the leg, as in fractures and protracted fever. Emboli resulting from thrombosis of veins after pelvic and abdominal operations come next in frequency. There is practically no treatment for the severe cases. A careful study of the blood before operation, avoidance of profuse hæmorrhage during the operation, and saline infusions after the operation may diminish the frequency of such cases.

3. Some Operative Aids in Abdominal Work.—Balloch thinks it very desirable to thoroughly learn the physical condition of a patient before operating upon him, admitting, however, that this may be impossible. Preliminary treatment may turn the scale and ensure recovery from an operation. An operation should be avoided if possible in the presence of grave anæmia; less than thirty-five per cent. of hæmoglobin should forbid any but an emergent operation. Catharsis prior to operation should not be excessive. Hand sterilization means an abundant use of soap and water, the brush need not be stiff, and gloves furnish additional protection. It is irrational to open the abdomen in a temperature lower than the normal body temperature. Other things being equal, the operative work which is quickest done is best done. As a general rule, the less in quantity of the anæsthetic which may be required, the better. The author uses only absorbable ligatures, except for intestinal work. He also avoids drainage, whenever he is in doubt as to its utility.

6. Symptomatology in Gynæcological Cases.—Harrison believes that symptomatology furnishes valuable aid to correct diagnosis. Menorrhagia or metrorrhagia indicates hyperplasia of the endometrium, or a neoplasm, benign or malignant, or a uterine displacement. Amenorrhœa is significant of occlusion of the genital tract, rudimentary condition, or absence of the uterus or ovaries. It is also significant of persistent exhausting constitutional disease. Dysmenorrhœa is believed to be a neurosis in which there is spasmodic contraction of the uterine muscle, the mechanical theory being accepted, at least in many cases. Sterility may consist in abnormal condition of the female organs of generation, but it is very often due to defect in the male organs. Constipation is a frequent accompaniment of pelvic disease, a result rather than a cause. Hysteria often coexists with pelvic disease, and may disappear with the removal of the latter.

7. Symptomatology in Gynæcological Cases.—Bissell states that backache is often erroneously attributed to the first objective sign discovered, and there is general disappointment if its removal does not cure the backache. The search for causation should be exhaustive, and the repair of real or supposed lesions should be instituted only when one is moderately certain that they are of pathological import. Backache must be associated with certain discoverable morbid conditions in order to make it a symptom of value. Injuries of the genital tract alone may cause this symptom, but disease of the appendages and uterine malposition are often more noteworthy causes.

10. Cancer of the Breast.—Stone calls this the most deadly and dangerous, with the exception of uterine cancer, of all the diseases of the female sexual organs. He accepts the parasitic theory of its causation as best accounting for our present understanding of its manifestations. Of twenty-five patients operated upon by

the Halsted-Meyer method in a period of five years, three have had recurrence, twelve are known to be in good health. The Röntgen ray treatment cannot, in the author's opinion, be substituted for surgical treatment, but it has had a certain measure of success when used for recurrent cancer. The points to be observed in removal of the breast for cancer are: 1. As much of the skin should be removed as is consistent with proper closure of the incision. 2. The deep infra-clavicular and axillary regions should first be attacked, then the pectorals, the fat, and the suspected glands, from above downward, avoiding exposure of the cancer area. 3. The exposed surfaces should be covered with healthy skin, and with as little tension as possible.

11. Typhoid Fever in Pregnancy.—Kelley remarks upon the twofold interest of this subject, affecting as it does both mother and foetus. Death of the foetus may occur without infection from the mother. The disease is more fatal to pregnant women than to others, on account of increased susceptibility to absorbed toxins. The length of the time that the fever has existed is an important factor in determining foetal infection. The treatment is not different from the treatment in the unimpregnated, except as the disease may be modified by the presence of the foetus. Abortion should not as a rule be induced.

ARCHIVES OF PÆDIATRICS

April, 1906.

1. A Case of Uncinariasis in a Child, By S. S. ADAMS.
2. Costal Synostosis About Drainage Tubes in Empyema, By F. HUBER.
3. Certain Necessary Requirements for Intelligent Infant Feeding and a Method for Reducing the Complexity of the Mathematical Calculations, By C. H. DUNN.
4. The Diathetic Child, By L. KERR.

2. Costal Synostosis About Drainage Tubes in Empyema.—Huber remarks that simple incision with rubber tube drainage usually suffices for the treatment of empyema in children. Cure is accomplished as the lung expands and the chest wall falls, with the removal of the fluid, and unrestrained motion of the diaphragm. Delay in healing may be caused by too small an opening, firm pleural thickening, defective development of the thoracic muscles, defective breathing, or approximation of the ribs to each other. Prolonged retention of the drainage tube causes erosion and absorption of contiguous bone and periosteum. Mere irritation of the periosteum causes the formation of new bone. The presence of bare bone where the drainage tube has been in contact with the ribs does not mean necrosis if the tube is removed within a few weeks, but if it is retained six weeks or longer a sinus may remain, and new bone be formed above, below, and on either side of the tube, a synostosis between contiguous ribs being thus formed. This occurrence is not so very rare.

3. Requirements for Intelligent Infant Feeding.—Dunn has constructed a table for this purpose. He directs that one look up in the table the proper combination of cream and whole milk, or cream and skimmed milk, and write down the corresponding formula, averaging the two nearest formulæ in case of half ounces. Then make the following correction: 1. Correct the fat percentage by multiplying the first figure in the fat percentage by the percentage of fat in the cream, and divide by ten. 2. Multiply the number of tablespoons of milk sugar by two and the result to the percentage of sugar in the formula, for the corrected sugar percentage. 3. Multiply this corrected formula by twenty and divide the result by the number of ounces in the prepared mixture. This will give the required formula.

4. The Diathetic Child.—Kerr thinks over estimation of the importance of heredity is so widely diffused that many factors are accepted as due to this cause

which have nothing to do with it. Environment is a far more potent factor in the production of delicate children. A diathetic child may be treated by waiting until the diathesis is expressed in disease, or by preventing such an occurrence by fortification of the system against such invasion, the latter being by far the more rational procedure. Idiosyncrasies are of great scientific value in the study of the production as well as of the prevention of disease in children. It is necessary to consider the distinction between congenital condition and heredity.

THE PRACTITIONER

April, 1906.

1. Dietetics, By D. N. PATON.
2. General Considerations on the Therapeutical Uses of Diet, By R. HUTCHISON.
3. The Effect of Diet on Chronic Heart Disease and Diseases of the Circulatory System, By D. DUCKWORTH.
4. On the Diet in Acute Illness, By G. N. PITT.
5. Diet in Renal Disease, By J. R. BRADFORD.
6. The Dietetic Treatment of Diabetes Mellitus, By R. T. WILLIAMSON.
7. Diet in Gout, Rheumatism, and Allied Conditions, By A. P. LUFF.
8. The Dietetic Treatment of Obesity, By W. H. ALLCHIN.
9. On Dietetics in Consumption and Other Wasting Diseases, By H. MACKENZIE.
10. Dietetic Treatment in Epilepsy, By W. A. TURNER.
11. The Dietetic Treatment of Dyspepsia and Diseases of the Stomach, By S. H. HABERSHON.
12. Diet in Intestinal Disorders and Diseases, By G. A. SUTHERLAND.
13. Diet in Skin Diseases, By M. MORRIS.
14. Diet in the Tropics, By W. J. SIMPSON.

1. Dietetics.—Paton calls the object of feeding to supply energy for growth, mechanical work, and heat production, and to yield material to build up and repair tissues. Proteids, carbohydrates, and fats are the elements to accomplish this work, and undergo certain well known changes in the alimentary canal. They are frequently taken in an unfavorable state for the action of digestive juices. The availability of almost any article of food varies with the state of the teeth and the digestive organs, with the manner of eating, whether slowly or rapidly, and with the manner in which it is prepared. The condition and the period of life has much to do with the food which is most suitable and most effective. With most races the proximate principles are derived partly from the animal and partly from the vegetable kingdom. A purely animal, a purely vegetable, or a mixed diet is possible. In all three sufficient proteid may be obtained. The excess of energy required may, on a purely animal diet, be procured from fats, and on a purely vegetable diet mainly from carbohydrates.

3. The Effect of Diet on Chronic Heart Disease and Diseases of the Circulatory System.—Sir Dyce Duckworth notes that several forms of heart disease, especially mitral valvular disease, may be so compensated as to give no symptoms for a long time. When the myocardium begins to give way, dietetic and medicinal treatment is urgently required. When there is simple hypertrophy the general nutrition is to be maintained, plainly cooked food being taken without overloading and without excess of solids or liquids. Alcohol, tea, and tobacco may be omitted or nearly so. When dilatation comes on with dyspnoea, palpitation, and dropsy the meals must be small, fluid very limited in quantity, and chiefly between meals. The choice of food is not important as long as it is digestible. Two or three ounces of alcohol per day will generally prove useful. In the later stages of heart disease with liver enlargement, dropsy, and engorgement of the portal vessels, predigested foods, milk, barley water, kumyss, and champagne are suggested. In aneurysm the intake of

all food, solid and liquid, must be reduced. Milk is very useful in such cases. In arteritis with high tension animal food must be reduced, vegetables, carbohydrates, and fish must be the principal items of diet. In cases of hyperinosis a vegetable and diluent dietary must be used, milk being taken sparingly.

4. **Diet in Acute Illness.**—Pitt reminds us that Graves was the first to reverse the old custom of starving the sick. The influence of food in fever must be considered not only from its effects on temperature, but on all the symptoms induced by the infecting organisms. The action of food is not only to counteract poisons by supplying antibodies or changing the alkalinity of the tissues, but to stimulate the heart and nervous system. The elimination of poisons may be stimulated by the ingestion of large quantities of fluids, the poisons being diluted and the cutaneous and renal organs stimulated to activity. For aids in secretion, digestion, and assimilation, food ferments and dilute acid should be given. In chronic pyrexia a quantity of food equivalent to 1,500 to 2,000 heat units will suffice. A milk diet with plenty of cream is believed to be almost ideal in the average febrile condition. Alcohol is a food and is indicated when a crisis is to be tided over, in prolonged illnesses, during convalescence, and to improve the appetite and assist in the assimilation of other foods.

5. **Diet in Renal Disease.**—According to Bradford, a rigid diet is unsuitable for all kidney diseases. The general nutrition must be considered, dropsy, cardiovascular condition, and uræmia. In most cases of acute nephritis small quantities of milk will suffice for the early stages, later an abundance of fluid may be indicated to cleanse the kidneys. In chronic disease, especially with uræmia or dropsy, nitrogenous foods must be restricted, and milk or gruel be the mainstay. In ordinary cases of chronic Bright's disease a liberal diet, rich in blood forming constituents is useful, stimulants are harmful in all forms of chronic nephritis, and tea and tobacco should be used very moderately.

7. **Diet in Gout and Rheumatism.**—Luff advises consideration of the preferences of the gouty individual as to diet, and considers the disease as acute, chronic, and occasional. He is opposed to the exclusion of meat, fish, and tea from the diet. Vegetables may be taken daily, especially those which grow above ground. Starchy foods must be taken sparingly, but they need not be excluded if well cooked. Of fruits apples and oranges are usually well tolerated. As to alcohol abstinence is preferable; if it seems to be required, whisky or brandy, or a light, dry wine. During an attack of gout the object of diet should be to check the abnormal metabolism of the gastrointestinal tract and the liver, to be unirritating to the kidneys, and to diminish the production of purin bodies. In rheumatic fever a plain milk diet is suitable. In chronic rheumatism the chief requirement is moderation in eating and drinking, and avoidance of food which will cause gastrointestinal fermentation.

8. **Dietetic Treatment of Obesity.**—Allchin thinks it undesirable to recommend any very restricted treatment unless the individual is prone to excess, or there are symptoms due to accumulation of fat, or great annoyance from corpulency. Treatment must be regulated with great caution in those who have chronic disease, and in the aged. A radical change in diet must not be made suddenly, and a greater loss than three pounds per week is undesirable. Sugar must be excluded entirely, and farinaceous foods largely. Well regulated exercise is as important a means of treatment as diet.

10. **Dietetic Treatment in Epilepsy.**—Turner advises a purin free diet, with daily doses of 20 to 30 grains of sodium bromide at bedtime. In all his cases there had been previous more or less prolonged bromide treatment

without benefit. An obvious conclusion was that elimination of the purin element from the dietary of epileptics is of great therapeutical assistance, and may be continued indefinitely. It is most efficient with young epileptics in the first years of their disease, and with whom bromides have been of little use.

Proceedings of Societies.

ASSOCIATION OF AMERICAN PHYSICIANS.

Twenty-first Annual Meeting, Held in Washington, May 15 and 16, 1906.

The President, Dr. FRANK BILLINGS, of Chicago, in the Chair.

(Continued from page 1106.)

Pulmonary Œdema Toxic, not Mechanical.—Dr. HOBART AMORY HARE, discussing Dr. Riesman's paper, said that the cause of pulmonary Œdema was probably vascular spasm, but could scarcely be called vasomotor spasm. The vasomotor apparatus consisted of the nerve fibres of the sympathetic system in the lungs, and the lungs were not supplied very well with either muscles or nerves. There seemed no doubt, then, that these pulmonary accidents should be considered as due to toxæmia rather than to disturbance of the nervous mechanism of the lungs.

Dr. S. J. MELTZER, of New York, said that the pouring of serum into the lungs was due rather to changes in the permeability of the blood vessels than to any other single factor. The cause of this was toxic. The best remedy for the affection was nitroglycerin, which caused bleeding into the splanchnic area and relieved blood pressure without depriving the patient of any of his blood. In some cases that had come under his observation adrenalin had been used, but this seemed to be contrary to the results of experimental observation upon animals. It was well known that adrenalin produced a definite tendency to pulmonary Œdema in animals. It was a mistake, therefore, to use it in man.

Dr. E. G. JANEWAY, of New York, said that pulmonary Œdema was often accompanied by excessive sweating or by evacuations from the bowels. Occasionally these seemed to take the place of the Œdema of the lungs and to relieve it. They would seem to indicate very clearly an increased permeability of the pulmonary vessels.

Dr. SHATTUCK, of Boston, said that pulmonary Œdema was especially likely to be recurrent in cases of arteriosclerosis. Personally, he had always found nitroglycerin of very great service in these cases. At the time when the dose was administered the whole chest showed râles. Five minutes later not a râle was to be heard anywhere. Morphine had also done excellent service in these cases, and was especially helpful when nitroglycerin failed of its expected effect.

Dr. FRANCIS P. KINNICUTT, of New York, said that the use of adrenalin might be contraindicated in theory, but he had seen it produce excellent effects in practice. In some cases of serious gravity fifteen minims of adrenalin had proved quite sufficient to relieve the patient of extremely severe symptoms. Dr. Kinnicutt would like to hear further clinical evidence in this matter.

Dr. FORCHHEIMER, of Cincinnati, said that in his experience adrenalin was always of service if there was increased blood pressure during the course of the attack of Œdema. There were various ætiological factors for Œdema of the lungs, and each type of the disease needed to be treated according to special indications. Clinical experience was of much more value than animal experiment in this matter.

Dr. MILLER, of Chicago, said that animals experimented upon with adrenalin died from pulmonary

œdema. In theory at least, then, the drug was contra-indicated in practice on human beings. The reported good results would make one suspect the possibility of asthma in many of the cases where immediate effects were noted.

Dr. THAYER, of Baltimore, said that under the administration of adrenalin pulmonary blood pressure scarcely varied at all, though the general blood pressure was very much affected. This might help to account for some of the discrepancies that had been mentioned.

Dr. SOLOMON SOLIS COHEN, of Philadelphia, said that the indications for the use of adrenalin were not yet entirely clear. Œdema of the larynx, for instance, was frequently treated with adrenalin, though there seemed to be no doubt that at times it was the cause of this affection. He had seen angina pectoris, which had been caused by excessive doses of nitroglycerin self administered by a physician, cured by adrenalin. The doctor had thought he was suffering from angina pectoris when the underlying affection was really pulmonary œdema.

Dr. MELTZER said that in all the cases reported as benefited by adrenalin the action of the drug had been described as rather rapid and in some cases as immediate. Adrenalin acted slowly, and at least fifteen minutes to half an hour would be necessary to bring the patient under its influence. Asthma, with its many moist râles, was sometimes cured almost instantaneously by anything that might be administered. The action that had been attributed to adrenalin might really be due to suggestion.

Dr. CABOT, of Boston, said that he had often seen persons with pulmonary œdema recover promptly without any treatment. Unfortunately, owing to our anxiety to relieve patients, there were many affections whose normal course remained unknown.

Dr. FRANK BILLINGS, of Chicago, said that some of these cases of pulmonary œdema seemed to be of alarming prognosis. The patients, especially from whom there flowed in a stream frothy mucous at times tinged with blood, so as to be pinkish, the flow coming from both mouth and nose, seemed to be in imminent danger of death. These patients, however, were not often cyanotic. They did not breathe rapidly, and in spite of their fear of impending death their general symptoms were not alarming. In some of these cases there was also an oversecretion of urine and of sweat. He has found morphine in small doses and nitroglycerin the best remedies for such recurrent attacks. He had formerly used strychnine and digitalis in some cases, but had not found them of service.

Dr. BABCOCK, of Chicago, said that he had found atropine of more service than any other drug, especially where the pulmonary œdema came on in the course of pneumonia.

Dr. JAMES TYSON, of Philadelphia, had found atropine the best remedy, and especially in the case of pulmonary œdema following the use of pilocarpine, which gave rise to a very characteristic œdema of the lungs if employed in the large doses customary some years ago.

Dr. J. H. MUSSER, of Philadelphia, said that in pulmonary œdema in his experience morphine was the best drug, and closely following it was nitroglycerin. He thought that pulmonary œdema was often closely associated with acute dilatation of the heart.

Dr. W. H. THOMPSON, of New York, said that years ago he had declared that very little was known of the pathology of œdema. In a letter Dr. Adami, of Montreal, had said some years ago that Heidenheim, who had investigated the subject of pulmonary œdema more than any one else, declared that nothing was known of the pathology of œdema. Osler had declared that with regard to œdema, due to the venous circulation, the least of all was known.

Dr. RIESMAN said that when there was a full, bound-

ing pulse the indication is to bleed, and this was the one thing he wished to insist on.

The Dangers of Thoracentesis.—Dr. GEORGE G. SEARS said that the most serious danger was that of sudden death. In ten instances reported, seven of the patients were children. In some of them at least consolidation of the lung was present, and in penetrating this the needle caused irritation of the fibres of the vagus, with consequent inhibition of the heart. One of the supposed dangers was the occurrence of pneumothorax. The signs of this usually disappeared without any serious result. Such accidents were of fairly frequent mention in medical literature. The air, however, did not enter through the needle, as a rule, but found its way into the pleural space from the lungs.

Dr. KOPLIK, of New York, said that he had seen pneumothorax occur as the result of the introduction of a needle for exploring purposes. In one case recently seen, the patient was quite cyanotic from the time of the puncture until the fatal issue. Whenever there was fluid present with pneumothorax, it should be evacuated.

Dr. JANEWAY said that pneumothorax after paracentesis was much more common than had been thought.

Dr. FUTCHER, of Baltimore, said that Dr. Emerson had collected the reports of forty-nine cases of pneumothorax, nine of which had followed paracentesis.

Dr. SHATTUCK said that most of the sudden deaths reported as due to paracentesis were probably in cases of consolidation of the lungs, and were due to the shock set up by the irritation of the needle under these circumstances.

Dr. ALFRED STENGEL, of Philadelphia, had seen a case in which, owing to a mistake in the arrangement of the valves of the air pump, air was forced into the pleural cavity instead of fluid being withdrawn. The accident was noticed because of the gurgling that ensued. No bad effects followed, however, and the patient got well quickly.

Dr. THAYER also had seen air forced into the pleural cavity by such a mistake, and the only result was the discomfort to the patient, the air being absorbed without incident.

Dr. BILLINGS said that in the Murphy treatment for tuberculosis, which, it would be remembered, consisted of the injection at first of air and then later of nitrogen into the pleural cavity, with the idea of setting the affected lung at rest, some bad results had been reported, but they were by no means frequent. Indeed, the accidents might be said to have been very few, though the treatment was tried in many hundreds of cases for a considerable period of time.

Dr. MELTZER said that if air should find its way into a healthy pleural cavity it would be absorbed. It was only when the pleura was diseased that air was retained and so interfered with the action of the lungs.

THERAPEUTICS BASED UPON PATHOLOGICAL PHYSIOLOGY.

The Therapeutic Principles.—In the first paper, by Dr. RICHARD C. CABOT, of Boston, the author said that one of the most interesting features of the study of diseases was the investigation of Nature's reaction against the disease process. If the physician could modify or guide Nature, much might be accomplished. This method of therapeutics was not so good as the physiological treatment of disease, but it was not so bad as the symptomatic treatment. Its application would surely prove of great service in widening the boundaries of therapeutics and making the physician realize how little he needed to interfere in certain disease processes.

Chronic Arterial Hypertension.—Dr. THEODORE JANEWAY, of New York, said that hypertension of arteries was only a symptom, but it was of sufficient importance to demand consideration for itself, apart from the conditions in which it occurred. The pathological physiology of the condition gave a hint as to the ap-

plication of this form of therapeutics better than could be obtained from almost any other department of medicine. While it was usually compensatory, there were other elements in it that must be considered. No treatment could ever be given for it directly, and yet it had certain dangers that might be prevented or against which Nature can be helped with considerable success. A neglected factor in the study of arteriosclerosis was the lowered nutrition of the system. In arteriosclerotics changes in the coronary arteries and the degenerative tendencies of age made a poor basis for the development of new heart muscle. One must also allow for the demands made on the circulation by the individual, and the possibility of atrophy in a previously hypertrophied heart, after prolonged physical and mental rest in a hospital ward. Certainly in the small number of patients in whom arteriosclerosis led to persistent high blood pressure, the latter must be a physiological necessity for the maintenance of an adequate abdominal circulation.

The problem of nephritic hypertension was much complicated. Physiological experiment and clinical observation had put out of court all the simpler mechanical and chemical theories, such as Traube's, Johnson's, etc. Double nephrectomy, as a rule, did not raise the blood pressure, and hypertension was most frequent in that type of nephritis in which the least retention of nitrogenous waste products occurred.

Anatomical lesions throughout the splanchnic arteries undoubtedly played a large part in the perpetuation of hypertension in nephritis, as the hypertrophied heart did, but were probably equally secondary. Hypertension had been seen within twenty-four hours of the onset of acute scarlatinal nephritis, when anatomical changes were out of the question. Another strong argument against a purely anatomical increase in resistance was the prompt temporary response to nitroglycerin in such cases, even though its continued administration had no effect on the general level of the pressure. This evidently pointed to heightened vasomotor tone. Increased viscosity of the blood as a cause had not been proved. Senator's return to one of Bright's original suggestions, as the explanation of the cardiac hypertrophy, namely, primary stimulation of the heart, did not explain the hypertension in the presence of a normal splanchnic circulation.

The latest theory advanced by Loeb, from Krehl's clinic, that hypertrophy went hand in hand with glomerular changes, and was probably due to a general reflex rise in vasomotor tone, which was evoked because local vasodilatation no longer sufficed to produce a sufficient blood flow through the diseased glomeruli, seemed quite plausible. Such a reflex constriction evoked by the glomeruli, and subject to augmentation as metabolic waste products increased in the blood and demanded excretion, coupled with the development of permanently increased peripheral resistance and heart force, through secondary hypertrophy of the arterial wall and cardiac muscle, tallied fairly well with the known facts.

The only mechanisms suggested to explain these cases were a persistent arterial spasm, of toxic origin, which had no counterpart in experimental physiology; increased vasomotor tone, due to reflexes from the brain or other important organs, similar to that hypothesized for the glomeruli in nephritis. Krehl had observed extensive lesions in the brain arteries in his autopsies.

Whatever was the exact mechanism of its production, we could not avoid the conclusion that hypertension expressed an attempt of the organism to maintain an adequate speed of capillary flow through the kidney or other important organ which would be impossible without it. True, it was a symptom of disease, but still more truly was it a proof of the body's defen-

sive reaction against the disease. This conception was the foundation of any rational treatment.

Nevertheless, there was quite a different aspect to the matter. Persistent high blood pressure, however necessary, must be followed by important changes, both in structure and in function of the circulatory organs. Besides hypertrophy of the left ventricle and the arterial changes, there was a diminishing distensibility of the arteries as the pressure within them rose, causing an increasing systolic elevation of pressure and suddenness of the pulse wave which predisposed to rupture at any weakened point. Vasomotor regulation was impaired, and ordinary physiological rises in pressure became exaggerated, often initiating attacks of anginal pain. Crises of hypertension, such as acute uræmia, might appear from causes little understood. The dangers most to be guarded against were insufficiency of the left ventricle, with resulting pulmonary and general venous stasis and their symptoms on the one hand, and inadequate capillary circulation, which intensified the primary trouble, on the other.

Preventive treatment was directed toward limiting or ameliorating the primary disease. It was, therefore, chiefly the general hygienic and dietetic management of chronic nephritis. The effect of rest and milk diet in exacerbations of nephritis was strikingly evident on the blood pressure chart. Equally good results often followed the readjustment of diet and mode of life in middle aged high liver who were in the early stages, a return of the blood pressure to nearly normal limits being possible (Allbutt). Massage and the iodides belonged in this category.

Formerly the discovery of high blood pressure had too frequently been the signal for an attempt to reduce it at any price. Fortunately, as Krehl had lately said, such efforts were commonly unavailing. This failure of vasodilators to reduce the general level of pressure in such cases had usually led to loss of faith in the drugs rather than to an appreciation of the struggle of the organism to maintain its life in spite of the physician. As a rule a fall in the blood pressure, without other evidence of improvement, marked the onset of cardiac insufficiency, and called for digitalis. The indications for the drug were the same with hypertension as without it, and no blood pressure reading should make us hesitate to administer it where asystole existed. An increasing blood pressure was often the evidence of a winning fight.

Emergency treatment included all the means used to forestall or cut short those dramatic moments, which may come without warning to any victim of hypertension, when life suddenly hung in the balance. Here the vasodilators found their rational use, and were indispensable. Nitroglycerin and other nitrites in attacks of angina and cardiac asthma, venesection and light chloroform narcosis in uræmia, every one knew well.

Kidney Insufficiency and Pathological Physiology.—

Dr. ROBERT B. PREBLE, of Chicago, said that the term kidney insufficiency was extremely unsatisfactory and was usually considered only from the standpoint of excretion, while the kidneys had also a secretion. This secretion was considered by some to be very important. The measure of renal sufficiency had not been determined with any degree of satisfaction. The recent methods had proved no more definite than previous ones, and all of them took little account of what went into the kidneys, while making much of what came out of them. The principles of the treatment of kidney disease from the study of Nature's processes showed that the kidneys must be protected by lessening the demands made upon them by lowering diet and muscular and brain activity, so as to require less excretion, and then by substituting for them the excretory power of other organs, such as the bowels and the skin. The only other method was by direct or indirect stimula-

tion of the kidneys, but this, of course, only called for overwork from an already degenerating organ, and recourse could be had to it only in conditions serious for the rest of the organism.

Environment in Hospital and Private Practice.—Dr. WALTER B. JAMES, of New York, said that some elements of the environment of hospital patients were extremely unfavorable. Physicians who were at the same time teachers were sometimes very thoughtless. Pathological specimens taken from patients who had died from the same disease from which other patients were suffering were sometimes demonstrated before these sufferers. Patients who had died from the shock of an anæsthetic were sometimes brought back into the ward in which there were other patients waiting to be anæsthetized for an operation. The surroundings of patients were often extremely discouraging. The segregation of patients suffering from consumption usually threw these patients back upon their own thoughts, which were apt to be very gloomy. Sanatorium life was very encouraging for such patients, because they saw others around them suffering from the same disease and because they felt better for seeing that other sufferers were improving.

The ventilation of hospitals, as indeed of all public buildings, seemed to be entirely satisfactory only to the architects and to the engineers. Certainly, the occupants of public buildings were never satisfied with the ventilation, and the ventilation of hospitals still remained something that could be very much improved. The architect's and sanitary engineer's idea of ventilation seemed to be to supply as much air as possible with as little movement of the air as could be secured. An even temperature was thought to be one of the greatest desiderata. This was not, however, good for well people, and is certainly not good for those who were ailing. Dr. James had found that his fever patients especially were benefited by leaving the windows open, even in winter. The main beneficial effect of cold baths in typhoid fever seemed to be the abstraction of heat. Because of this the patients were much more quiet and slept better. A constant cold air bath was even more efficient, however, than the nuisance and inconvenience of having to place a patient in the water bath, and then he did not have to be cooled to such a degree that he came out shivery and blue, needing to be rubbed and stimulated in order to be himself again. Many patients who were restless and needed opiates slept well at night just as soon as they were kept in the open air. One of the most serious mistakes in modern hospital management was that all diseases now got the same environment, while there should be as much individualization as in the administration of other forms of remedies.

Rational Diet in Typhoid Fever.—Dr. KINNICUTT said that one of the most serious faults in the modern treatment of typhoid fever was that an inadequate diet was allowed these patients. Certainly limitation to an absolute milk diet was in many cases a mistake. He then showed by a set of statistics that if over seven hundred cases treated by a rather liberal diet were compared with some four thousand cases treated by an absolute fluid diet, the results were in favor of the liberal diet. Fewer relapses occurred, only about half as many hæmorrhages were noted, only about half as many perforations occurred, and the mortality was more than one per cent. less. This comparison seemed to be sufficient to show that the liberal diet could be given certainly without danger and probably with distinct benefit. A certain amount of finely divided solid food might be allowed, and various additions to the diet for which the individual's hunger called. It was important in this matter to consult the patient and his appetite rather than any hard and fast rules.

Limits of Rectal Feeding.—Dr. DAVID L. EDSALL, of Philadelphia, said that, as the result of the teaching of

Ewald and Leupe, there had been a general belief that rectal enemata were freely absorbed and were of great value in maintaining patients' nutrition. Recent studies showed, however, that their nutritive value was very slight, and that at most 150 to 300 calories a day could thus be supplied. There were exceptional patients, however, that could be maintained in good nutrition by rectal feeding. In these the ileocæcal valve seemed to yield and permit the enema to reach the small intestines, where it was absorbed in a normal manner. The hope for rectal feeding, then, consisted in the invention of some ingenious method of securing the passage of the enema through the ileocæcal valve.

Dr. THAYER said that statistics as to typhoid fever with regard to varying diets could not as yet be depended upon.

Dr. MCCRAE said that there should be individualization as to diet. The simple diet had given such good results, however, that it seemed too much of a risk to go beyond it except in mild cases.

Dr. HARE said that for the first ten days patients should be kept on a milk diet, and this was, as a rule, all that they would ask for. Then the diet should be made more liberal. Since having had a personal experience with typhoid fever Dr. Hare has become convinced of this.

Dr. SHATTUCK said that the diet should follow the appetite to a considerable degree. Recently he had seen some minced chicken in a hospital dinner with pieces in it as large as the end of his finger. This would not do for typhoid patients.

Dr. KOPLIK said that children were somewhat more subject to relapses in typhoid fever than adults. More relapses occurred if they were kept on too absolute a diet. Extreme emaciation must be avoided, or besides the long convalescence there was danger from many complications.

(To be continued.)

Book Notices.

Diseases of the Nervous System Resulting from Accident and Injury. By PEARCE BAILEY, A. M., M. D., Clinical Lecturer in Neurology, Columbia University, New York city; Consulting Neurologist to the Roosevelt, St. Luke's, and Manhattan State Hospitals, etc. New York: D. Appleton & Company, 1906. Pp. xii-62/.

Eight years ago the author's work on *Accident and Injury* made for itself an excellent reputation. The present volume, while not a second edition of the former work, is an extended and more complete monograph along similar lines. It is by far the best thing we have in the English language on the subject, and is worthy of a place in every practitioner's library.

While of primary importance to the neurologist and the medicolegal expert, the work is one that commends itself to the surgeon and general practitioner for its simple and straightforward language and its eminently sane and conservative attitude toward the problems of accidents and the nervous system.

For the surgeon the chapters on brain and spinal cord injury will prove helpful and suggestive. While few surgeons are willing to operate on the skull or spinal cord without the advice of a neurologist, in the lack of such assistance we can recommend the present volume in preference to more pretentious works on neurology or on surgery.

The chapters on neurasthenia and hysteria contain an accurate and common sense discussion of these very complex disturbances. The mental involvement is made clear in the author's descriptions and his mode of treatment is all that could be desired.

The chapters on simulation and malingering are particularly instructive, and the discussion of the medi-

collegal relations is fair and unbiased. The author is to be congratulated on this volume.

A Systematic Treatise on Materia Medica and Therapeutics, with Reference to the Most Direct Action of Drugs. By FINLEY ELLINGWOOD, M. D., Professor of Materia Medica in Bennett Medical College, Chicago, etc. With a Condensed Consideration of Pharmacy and Pharmacognosy. By Professor JOHN URI LLOYD, PH. M., PH. D., late President, American Pharmaceutical Association, etc. Fifth Edition, Thoroughly Revised and Greatly Enlarged. Chicago: The Chicago Medical Times Publishing Company, 1905. Pp. 811.

This book, written from the standpoint of the eclectic physician, is rather optimistic as regards the efficacy of drugs, but that very quality makes it a valuable corrective of "therapeutic nihilism." Our eclectic friends make use of many plants, particularly those that are indigenous, which the other members of the profession are inclined to ignore. Naturally they have studied the physiological action of these plants and their remedial properties, and it would be well for physicians in general to learn what they have observed in regard to them. We know of no better repository of such information than Dr. Ellingwood's book. When we say this we do not mean to imply that it is devoid of interesting and instructive matter concerning the materia medica in general; on the contrary, it contains much that is of value with regard to drugs that are in common use.

It is unnecessary to add that Dr. Lloyd's part of the work shows abundant marks of that scholarly gentleman's thoroughness and clearness. Much may be learned from the book, and we cordially commend it to our readers.

Miscellany.

A Remarkable Case of Precociousness.—George Weiss, of Ragersville, Ohio, writes in the *Medical Brief*, May, 1906: The subject of this article was born February 17, 1901, and the photographs were taken in July, 1905. This will make the age of the child about four and one half years. She is a member of a family of fourteen children, ten of which are living (three died of pneumonia, and one in infancy). This child is a case of infantile menstruation—the first menstruation was in June, 1901, she being then four months old, and has regularly menstruated—every four weeks—to date. The photographs show that the mammae are fully developed; also she has pubic hair, and, in fact, the child has the complete form of a girl fully eighteen years of age. Her weight is seventy pounds, and height four feet two inches. Her intellect is that of a child twelve or fourteen years of age. This child had a slight, sanguineous discharge when she was twelve weeks old, but her first menstrual discharge was when she was sixteen weeks old. When the mother brought the child to my office for information and advice, I examined the child carefully and found no injury or lacerations, but generative organs more fully developed than one would expect to find in a child of her age—sixteen weeks. I advised nothing to be done, as the child seemed to be in good health. When at the age of twenty weeks the child was brought back, I found the same condition, and I diagnosticated the case to be a premature child, as she had not missed a period, and had menstruated freely, every four weeks, up to the time of reporting this case. In regard to nationality, I wish to say that the father's father came from Germany, as well as the mother. The mother's father was a Pennsylvania German, while the mother's mother came from England. As to the environment, I wish to say that she is

a member of a family living on a farm two and one half miles from a town, and had no associates except members of the family, and considered of good moral character. She is an exception to all the other members of the family. I was the attending physician when she was born (February 17, 1901), and while I did not weigh her, believe she was about twelve pounds, and of ordinary height, and nothing startling at birth. The weight of the father is two hundred pounds, and that of the mother two hundred and seventy-five pounds. The remarkable development of the child appeared later, and can be verified by affidavit. What will be her age at menopause and what effect will her condition have on future health?

Earle's Ideas of the Physician.—It is hard to decide whether surgery ranks higher in Earle's esteem than medicine. He despises the professors of both, but while he refers to the "Surgeon" simply as such, he dubs the "Physician" dull. The surgeon, we are informed, "differs from a Physitian as a sore does from a disease, or the sick from those that are not whole, the one distempers you within, the other blisters you without." The "mere dull Phisitian" is distinguished from the empirics by a round velvet cap and doctoral gown, but his reading is probably limited to Alexis of Piedmont or the "Regiment of Health." "The best cure he has done is upon his own purse, which from a lean sickness he hath made lusty and in flesh." His chief business is to inspect urine. "If you send this once to him, you must resolve to be sick howsoever, for he will never leave examining your water till he have shaken it into a disease. Then follows a writ to his druggier in a strange tongue, which he understands, though he cannot construe. If he see you himself his presence is the worst visitation: for if he cannot heal your sickness he will be sure to help it." Earle's satire, however, must be discounted, for he was a University wit and afterwards a bishop, and his bias was against science, however humble. Yet there can be no doubt that medicine and surgery were at a low ebb in the public esteem in the seventeenth century, and that despite the fact that Sir Thomas Browne and Sydenham, to mention no others, were Earle's contemporaries. The professional man was too often a mere shopkeeper with all the shopkeeper's faults. He kept a shop and hung a vaunting sign outside it. Such a sign may be seen in the hall of the Royal College of Surgeons of England. It belonged to a practitioner at Poole in 1623, Earle's epoch, and is well carven in high relief. The good doctor-surgeon is portrayed in the middle, and appears a stout homely looking man in ruff and trunk hose. In seven smaller compartments of the same design he is represented pursuing his avocations. Here he inspects urine, there he visits a woman with a tumor, and there again he saws off a leg, bleeds, draws a tooth, and sets dislocations. The carving is so good as to suggest that it was a faithful portrayal of both the man and his works.—*Medical Review*, London.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ending May 25, 1906:

| Smallpox—United States. | | | |
|-----------------------------------|---------------------|--------|----------|
| Places. | Date. | Cases. | Deaths. |
| Arkansas—Fort Smith..... | Apr. 28-May 12..... | 5 | 2 |
| California—Los Angeles..... | Apr. 28-May 12..... | 2 | 1 |
| California—Mill Valley..... | May 12..... | 1 | 1 |
| California—Oakland..... | May 7..... | 3 | in camps |
| California—Petaluma..... | May 12..... | 1 | 1 |
| California—Pleasanton..... | May 12..... | 1 | 1 |
| California—Stockton..... | Apr. 1-30..... | 1 | 1 |
| Dist. of Columbia—Washington..... | May 5-19..... | 18 | |

| | | |
|---------------------------|-------------------|--------------|
| Florida—General | May 12-19 | 14 |
| Florida—Jacksonville | May 5-19 | 4 |
| Georgia—Augusta | May 7-21 | 4 |
| Georgia—Columbus | May 12-19 | 3 |
| Kansas—Abilene | Apr. 14 | 12 |
| Kansas—Topeka | May 5-12 | 1 |
| Louisiana—New Orleans | May 5-19 | 12 |
| Maryland—Baltimore | May 12-19 | 1 |
| Michigan—Detroit | May 12-19 | 2 |
| Missouri—St. Louis | May 5-19 | 3 |
| Minnesota—General | Apr. 1-30 | 3 |
| Nebraska—Omaha | May 12-19 | 1 |
| North Carolina—Greensboro | May 5-19 | 2 |
| Ohio—Cincinnati | May 4-18 | 12 |
| Ohio—Dayton | May 12-19 | 2 |
| Pennsylvania—Lancaster | Mar. 29-Apr. 5 19 | 1 and 1 case |
| Pennsylvania—Philadelphia | Mar. 31-Apr. 7 | 2 |
| Pennsylvania—Philadelphia | Apr. 14-21 | 2 |
| Pennsylvania—Philadelphia | Apr. 28-May 12 | 2 |
| Pennsylvania—Pittsburgh | Apr. 28-May 12 | 4 |
| Tennessee—Memphis | Apr. 28-May 19 | 29 |
| Tennessee—Nashville | May 12-19 | 3 |
| Wisconsin—Appleton | May 5-19 | 3 |
| Wisconsin—La Crosse | May 5-12 | 3 |
| Wisconsin—Marinette | May 7-19 | 5 |

S. I. C. Foreign.

| | | |
|---------------------------------|-----------------|-----|
| Africa—Cape Town | Apr. 7-14 | 7 |
| Africa—Monrovia | Mar. 1-30 | 3 |
| Argentina—Buenos Ayre | Apr. 1-28 | 38 |
| Brazil—Amwerp | Apr. 21-28 | 4 |
| Brazil—Pernambuco | Mar. 18-Apr. 15 | 1 |
| Brazil—Rio de Janeiro | Apr. 15-22 | 1 |
| Canada—Toronto | Apr. 28-May 12 | 1 |
| China—Hongkong | Mar. 31-Apr. 7 | 15 |
| Germany—Bremen | Apr. 1-30 | 2 |
| Great Britain—Bristol | Apr. 28-May 5 | 1 |
| Great Britain—Cardiff | Apr. 28-May 5 | 1 |
| Great Britain—London | Apr. 28-May 5 | 2 |
| Great Britain—Newcastle-on-Tyne | Apr. 28-May 5 | 1 |
| Greece—Athens | Apr. 21-May 6 | 5 |
| Greece—Patras | Mar. 27-Apr. 10 | 2 |
| India—Bombay | Apr. 17-24 | 18 |
| India—Calcutta | Apr. 7-14 | 206 |
| India—Karachi | Apr. 15-22 | 20 |
| India—Madras | Apr. 14-20 | 42 |
| India—Rangoon | Apr. 7-14 | 51 |
| Italy—General | Apr. 26-May 3 | 35 |
| Japan—Hironuma | Apr. 21-28 | 1 |
| Russia—Odessa | Apr. 14-28 | 30 |
| Russia—St. Petersburg | Mar. 31-Apr. 21 | 28 |
| Spain—Barcelona | Apr. 20-30 | 12 |
| Turkey—Constantinople | Apr. 15-29 | 2 |

Y. I. C. Foreign.

| | | |
|------------------------|-----------|---|
| Cuba—Matanzas Province | May 18-23 | 2 |
| Mexico—Merida | May 10-12 | 3 |
| Panama—Colon | May 22 | 1 |

C. I. C. Foreign.

| | | |
|----------------|------------|----|
| India—Bombay | Apr. 17-24 | 40 |
| India—Calcutta | Apr. 7-14 | 48 |

P. I. C. Foreign.

| | | |
|-----------------|-----------|---|
| Hawaii—Honolulu | May 13-21 | 2 |
|-----------------|-----------|---|

P. I. C. Foreign.

| | | |
|----------------|----------------|-------|
| China—Hongkong | Mar. 31-Apr. 7 | 24 |
| India—Bombay | Apr. 17-24 | 1,084 |
| India—Calcutta | Apr. 7-14 | 260 |
| India—Karachi | Apr. 15-22 | 253 |
| India—Rangoon | Apr. 7-14 | 64 |
| Japan—Wakayama | Apr. 21-28 | 1 |
| Peru—Lima | Apr. 1-9 | 1 |
| Peru—Mollendo | Apr. 1-9 | 1 |
| Peru—Pascamayo | Apr. 1-9 | 1 |
| Peru—Reque | Apr. 1-9 | 1 |
| Peru—Trujillo | Apr. 1-9 | 4 |

Public Health and Marine Hospital Service:

List of Changes of Station and Duties of Commissioned and Non-Commissioned Officers of the Public Health and Marine Hospital Service, for the seven days ending May 23, 1906.

- BAILHACHE, P. H., Surgeon. Granted leave of absence for one month, from June 9, 1906.
- BROWN, B. W., Passed Assistant Surgeon. Granted leave of absence for two months, from July 2, 1906.
- McINTOSH, W. P., Surgeon. Granted leave of absence for ten days, from May 25, 1906.
- RODMAN, J. C., Acting Assistant Surgeon. Granted leave of absence for five days, from May 29, 1906.
- STONER, G. W., Surgeon. Granted leave of absence for three days, under Paragraph 189 of the Regulations.
- STONER, G. W., Surgeon. Directed to proceed to Liverpool, England, and other points in Continental Europe, for special temporary duty, upon completion of which to rejoin his station at Ellis Island, N. Y.
- TOWNSEND, F., Acting Assistant Surgeon. Granted leave of absence for five days, from May 22, 1906.
- WELDON, W. A., Acting Assistant Surgeon. Granted leave of absence for thirty days, from July 15, 1906.

Board Convened.

A board of medical officers was convened to meet at Baltimore, Md., on May 19, 1906, for the purpose of making a physical examination of an officer of the Revenue Cutter Service. Detail for the Board: Surgeon L. L. Williams, Chairman; Assistant Surgeon W. H. Frost, Recorder.

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army, for the week ending May 26, 1906:

HARVEY, P. F., Colonel and Assistant Surgeon General. Relieved from station at Governor's Island, N. Y., and will take station in New York City, in connection with his duties as chief surgeon, Department of the Lakes.

MARROW, CHARLES E., Captain and Assistant Surgeon. Reported for temporary duty at the Army General Hospital, Washington Barracks, D. C.; left Fort Monroe, Va., May 20, 1906.

ROBBINS, CHANDLER P., Captain and Assistant Surgeon. Ordered to proceed from Fort Ethan Allen, Vt., to Madison Barracks, N. Y., for temporary duty.

Navy Intelligence:

Official List of Changes in the Medical Corps of the United States Navy, for the week ending May 26, 1906:

ALLEN, A. H., Assistant Surgeon. Ordered to the Naval Hospital, Naval Home, Philadelphia, Pa.

EDGAR, J. M., Surgeon. Detached from the *Monadnock* and ordered home.

NASH, F. S., Surgeon. Detached from the *Rainbow* and ordered to the *Monadnock*.

TRAYNOR, J. P., Passed Assistant Surgeon. Ordered to the Naval Hospital, Portsmouth, N. H., for additional duty.

WILSON, R. D., Surgeon. Detached from the Naval Hospital, Portsmouth, N. H., and ordered to the *Dixie*.

Births, Marriages, and Deaths.

Married.

HANSEN—JENNER.—In New York, on Wednesday, May 23rd, Dr. Ejnar Hansen and Miss Sara Frances Jenner.

HOPKIN—FISCHER.—In Philadelphia, on Wednesday, May 16th, Dr. William Hopkin and Miss Della Fischer.

SCOTT—STEPHENSON.—In Boston, on Saturday, May 19th, Dr. John Alfred Scott and Miss Catharine Greene Stephenson, daughter of Dr. F. B. Stephenson. United States Navy.

Died.

CABELL.—In Winchester, Virginia, on Thursday, May 17th, Dr. Henry Lee Cabell, aged seventy-eight years.

DAVIS.—In Moundsville, West Virginia, on Tuesday, May 15th, Dr. John Reese Davis, aged sixty-two years.

DAVIS.—In St. Louis, Missouri, on Thursday, May 17th, Dr. Robert P. Davis, aged fifty years.

GILFILLAN.—In Bensonhurst, N. Y., on Wednesday, May 23rd, Dr. William J. Gilfillan, aged sixty-seven years.

HACKETT.—In Philadelphia, on Sunday, May 20th, Dr. William Hackett.

KELLEY.—In Saratoga Springs, N. Y., on Monday, May 14th, Dr. James E. Kelley, aged forty-two years.

LOELKES.—In St. Louis, Missouri, on Tuesday, May 15th, Dr. George Loelkes, aged sixty-one years.

MACKENZIE.—In Chicago, Ill., on Wednesday, May 16th, Dr. F. M. MacKenzie, aged seventy years.

MECHTOLD.—In Stapleton, Staten Island, on Saturday, May 19th, Dr. Fritz Mechtold, aged sixty-four years.

PITMAN.—In Nantucket, Rhode Island, on Thursday, May 17th, Dr. Benjamin F. Pitman, aged seventy-eight years.

RAUB.—In Washington, D. C., on Monday, May 21st, Dr. Jacob F. Raub, aged sixty-six years.

WILLIAMS.—In Boston, on Tuesday, May 15th, Dr. Jacob L. Williams, aged eighty-two years.

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WHOLE No. 1436.

Lectures and Addresses.

MILITARY HYGIENE OF THE JAPANESE ARMY.*

By BARON K. TAKAKI, F. R. C. S. E., D. C. L.,

LATE DIRECTOR GENERAL OF THE MEDICAL DEPARTMENT
OF THE IMPERIAL JAPANESE NAVY.

The medical organization of the Japanese army department with the education of the medical officers, the hospital corps, etc., is much similar to that of the Japanese navy, so that its description in detail would be simply a waste of time, and I believe that it is already too well known to the world.

The health of our army has been gradually improving in late years, but beriberi (kak'ke) is not eradicated as it is in the navy, and I regret to state that although the cases are few in time of peace at home, the disease is apt to break out in time of war when strong men are needed. In former years beriberi prevailed largely in the army, as it did in the navy, but now it occurs less frequently. The following table explains the facts:

| Name of division. | BERIBERI PER 1,000 OF MEN. | | | |
|-------------------------------|----------------------------|----------------|----------------|---------------|
| | Year.
1883. | Year.
1884. | Year.
1885. | Year.
1903 |
| Imperial Guards..... | 489.53 | 486.56 | 269.82 | 14.63 |
| Gendarmes..... | 408.17 | 354.54 | 254.96 | |
| Academy, etc..... | 607.70 | 725.00 | 412.12 | |
| School of sergeants, etc..... | 217.82 | 412.89 | 349.81 | |
| Tokyo..... | 349.38 | 467.99 | 311.16 | |
| Sendai..... | 120.16 | 216.02 | 138.36 | |
| Nagoya..... | 119.55 | 100.24 | 94.58 | |
| Osaka..... | 308.31 | 232.90 | 7.07 | |
| Hiroshima..... | 144.82 | 2.85 | 3.08 | 14.63 |
| Kumamoto..... | 102.95 | 154.75 | 39.17 | |
| | 276.75 | 315.37 | 188.01 | |

This table shows that the disease was violent in its attacks. The different sections of the army suffered differently as to numbers, so that the hospitals provided for certain divisions were inadequate to take all the cases of beriberi; therefore in order to meet such emergencies other accommodations were provided in the neighborhood to which patients were sent, such change of air being considered beneficial and curative.

The number of beriberi cases greatly diminished in 1885 in the Wagoya division. This result is considered to have been due to the introduction of a diet of rice with barley, in proportion of seven to three. The Hiroshima division has suffered very little in general. The price of food is less there than at other places, so that better and more nutritious food could be supplied at the same expense, and therefore the commander in chief was able to

supply some bread in place of rice. The results of the experimental use of barley in the Osaka division, and in the navy, induced the army authorities of other divisions to adopt a supply of barley in proportion of three of barley to seven of rice, and the result in 1903, as shown by the table, was a decrease of sickness in general and of beriberi in particular.

The health and efficiency of the army depend upon the care of the individuals, general sanitation, food, clothing, exercise, etc., hence, the following are the chief subjects to be considered:

1. Selection of men at enlistment. This is a most important subject, so that all nations are particularly careful in the selection of new men for their armies. A high standard of physical condition is adopted and all recruits are required to come up to this standard, as nearly as possible. Unless this is done the army is weakened, increasing sick days, hospital accommodations, invalided men, the services of medical officers, etc.; all involving an enormous waste of time and money.

2. Sanitary arrangements; construction of barracks, quarters, shelters, tents, etc., water supply, drainage, cleanliness of environments are very important but there is no necessity of describing them, as they are too well known. I shall refer to this subject later on.

3. Clothing: It is not necessary to speak about this subject, but I shall show you samples of our army uniforms.

4. Food: The quality, quantity, and methods of supply of food are absolutely important in time of peace or war, so that I say the food must be considered as the first essential subject of military hygiene. I firmly believe that men supplied with a sufficient quantity of food of good quality to keep up a proper nutrition will maintain their strength and efficiency whether they live in unhealthy places or are exposed to inclement weather with a deficiency of clothing and lack of proper shelter. For example, the better state of our navy's health since the year of 1884 is due to improved conditions. Prior to this date our naval men used to suffer much in summer with beriberi and diseases of the gastrointestinal organs. The sickness of the men also increased whenever they had to exert themselves more than usual, say to march for a day or more, thus losing bodily in weight, or when taking a long voyage, or going to tropical regions, or to cold regions such as the northern ports of Corea, where they used to get chilblains of hands, etc. Since the improvements were made in rations these evil effects are not seen. Our men stood the climate during the recent war well in winter as well as in summer. Not only dur-

* Cartwright Lecture given before the Alumni Association of the College of Physicians and Surgeons (Columbia University) of the City of New York.

ing this war, but also during the Japan-Chinese war twelve years ago, the naval men kept their health excellently; that is, in northern parts of China and Corea as well as in Formosa and adjacent isles.

As to the selection of the men, the construction of ships, barracks, etc., there were no particular changes made with the view of the improvement of the health in our navy. No doubt certain improvements were possibly made and at the same time the same is common with the other nations. In the ships and barracks, etc., built before 1884, no alterations were made, yet the health of the navy has improved, as stated before, proving that the change in the ration alone has had to do with the improvements of health. With our army, the health of the soldier has improved since the addition of barley to the ration. Again in the recent war, from the month of July, 1904, up to January of 1905, beriberi attacked some parts of our army, but upon the adoption of barley in proportion of quantity the use of meat uniformly added to the existing three to seven of rice and the uniform increase of meat to the existing rations a marked diminution of beriberi is said to have followed, decreasing to one-third of its previous occurrence.

5. Prevention of contagious or infectious diseases. It is a fact that an outbreak of any contagious or infectious disease weakens the strength of an army, hence the absolute necessity of preventing such, not only in time of war but also in peace. The following are the chief diseases which have been great foes to the navy and army from ancient times: 1. Cholera. 2. Dysentery. 3. typhoid fever. 4. Beriberi. This has attacked the Japanese navy and army badly for more than thirty-three years. 5. Malaria. 6. Scurvy. 7. Smallpox. 8. Typhus. 9. In addition, yellow fever, measles, scarlatina, cerebrospinal meningitis, venereal diseases, alcoholism, phthisis have been prevalent, but I do not regard these as important as the others.

The recent advancements in medical science have made their pathology clear, so that prevention has become more and more positive or certain. What we have to regard as important, so as to keep the health of force, is to carry on in all its details a proper method adapted to the different varieties of these preventable diseases. In time of peace and war, every precaution must be taken against intrusion of any such disease as is preventable.

The following rules were insisted on in the army:

1. No man should be allowed to approach the poisons of an infectious disease.
2. A sufficient supply of wholesome water should be guaranteed, thorough drainage, and proper treatment of excreta, etc., must be strictly observed.
3. Clothes and all necessities to each man should be kept clean so as to avoid conveyance of infections.
4. The quality and quantity of the food and its cooking must receive strict attention, as the chief means of introduction of preventable diseases into the human body is through the food supply.

What are we to do in time of war? We have simply to do what is stated or already mentioned, as far as is practicable. As the army moves its quarters here and there, practical applications of preventive methods are not so easy as in times of peace. When should these be done? In the first place, the medical officers of any army, wherever

they go, must ascertain as far as possible the presence or absence of such diseases as are infectious or contagious. Camping must be avoided as much as possible where there is a dangerous disease or any suspicion of an existence of such in any house or place.

When an epidemic disease breaks out the sufferers should be isolated at once, thus preventing its extension or spreading.

For the execution of the second rule the surgeon must ascertain where water is to be obtained and whether or not it is drinkable. When found to be unfit for drinking he must give public notice to this effect; and, if necessary, he must arrange to keep a guard over the infected source. When the weather is hot, long marches are to be made and troops are fatigued and thirsty, they have no time to think of danger, therefore, every one must be trained to the boiling of water before drinking it.

There are, it must be remembered, great difficulties, especially at night, in determining whether a given water supply is good, and special precautions should be taken in time of night marching.

For the execution of the third rule clothes, shirts, blankets, etc., must be kept clean and those washable must be washed whenever there is an opportunity of doing so. In the quarters or districts where there is any epidemic disease, all the necessities must be disinfected or sterilized with special disinfecting apparatus.

For the execution of the fourth rule, the food must be inspected by medical officers before and after cooking, prior to its supply, and at the same time special care must be taken as to the food obtained at any new place. In addition to the general rules already outlined, each individual must take care of himself, therefore the imperial Japanese army was supplied with a text during the recent war and every officer of the line and medical officers have had to instruct soldiers, including inferior officers, explaining the text instructions whenever they thought necessary or found time to do so.

The contents of the instruction under the title:

Sanitary Instructions in the Field for Inferior Officers and Soldiers, pertain to: 1. Body. 2. Clothes. 3. Drink and Food. 4. March. 5. Quarters or shelter, etc.; a, shelter; b, open camp. 6. Prevention of diseases incident to marching; a, chilblain; b, sunstroke. 7. Prevention of contagious or infectious diseases.

I. *Rules of General Hygiene*.—1. Onychia (swollen finger), boils, toothache, etc., even when slight, disturb the free actions of body and lower the fighting strength of the army. As these are generally caused by carelessness everybody ought not forget to keep himself clean even in war time.

2. As it is generally impossible to have warm bath during active service, each soldier should therefore wash himself with cold water often, especially in the axillæ, the inner sides of thighs, and the pubes particularly.

3. The hair of the scalp should be cut short, and washed so as to keep the head clean.

4. Every morning the mouth and teeth should be cleaned as a protection against decaying teeth.

5. Owing to frequent use the hands get dirty easily and in consequence are very liable to become inflamed. Besides, through them the pathogenic organisms may

enter and cause trouble. Therefore they should be washed often with soap and water.

6. The feet, like the hands, also get dirty easily. Moreover, they become moist through the boots and give out a peculiar odor, and often produce boot sores. When getting into quarters, therefore, they must be washed. Those who ride should wash the inner side of the thighs and the buttocks so as to prevent saddle sores as much as possible.

7. As the dirt beneath the nails often contains infectious material, they should be cut and cleaned frequently, but they should not be cut too deeply, as such is apt to cause wounds.

8. In winter, when the skin of the hands and feet is rough and fissured, there is always the fear of infection entering, and therefore they should be washed, dried, and treated with suitable ointments.

II. *Clothing*.—1. The chief purpose of dress is to protect against cold, but too much clothing causes sweating and is injurious. During working hours the clothing should be light, but there should be sufficient protection from cold after sweating. During rest, or during sentinel duty or when scouting the body should be protected with various kinds of winter clothing.

2. The overcoat is an indispensable article of winter clothing, as it often serves as a bed. If it gets wet through rain or snow it should be dried immediately upon reaching quarters.

3. Shirts, undershirts, and socks should be washed often and thus kept clean, otherwise the body itself cannot be kept clean.

4. When repairing tears in undershirts the sewing seam should not be made irregular—especially for those who ride—because it often causes saddle sores.

5. As an abdominal belt is a good protection against cold, it should be worn regularly when given.

6. The socks should be changed often, as torn or wet socks frequently cause boot sores, chilblains, etc. When too cold with socks alone, the feet should be bound with any linen or woolen cloth (flannel best) and shoes put on.

7. Shoes should be kept soft, because sore feet are caused by not only the bad fit, but also by the hardness of the leather. Oil should be used for the purpose of keeping the leather soft.

8. The method of making hardened shoes soft is as follows: (1) Put them in water or brush with wet brush until they become soft; (2) wipe off the water on the surface and then let the leather absorb soluble lard by applying it under the influence of the sun or stove or bonfire.

9. As the shoes of the infantry are the horses of the cavalry, they should be well looked after.

10. As it is impossible to escape injury when the shoes become torn they should be carefully mended. Wet shoes should not be suddenly dried, as it is not good for preservation. They should be bound in warm straw or woolen cloths, and should be dried gradually by heat.

11. When the shoes become torn and there are no fresh ones to change, the feet should be bound first with dried grass, straw, etc., and then several times over with cloth, and one should finally wear waraji (Japanese straw shoes).

III. *Food*.—1. The bodily strength is kept up by food, and more food is necessary in times of war than in time of peace. If you don't eat enough you get soon tired and cannot work.

2. In addition you cannot bear cold well and often become ill if you do not eat. Therefore sufficient food ought to be taken, so as to prevent hunger, but over-eating and drinking are injurious.

3. When very tired or very hot, do not take food at once, but wait a short time before doing so.

4. Auxiliary food of unusual smell or taste should not be eaten.

5. As ripe fruits are good for health and have power to ease thirst, they may be eaten after peeling the skin, but unripe fruits often cause diarrhoea and they should not be taken, especially when dysentery or cholera is prevalent.

6. As fresh vegetables and water often contain poisons they should not be taken in that state.

7. Any kind of water if having been regularly used before may be used, but if possible boil it before drinking.

8. The water in old wells, ponds, or marshes, even when boiled, is dangerous, and it should not be used unless necessary.

9. The food left behind by the enemy, the well water in the district newly captured, or any drinks or eatables among the inhabitants should not be carelessly used, as there is danger of poison having been mixed with it.

10. Tea, coffee, etc., are good tonics for the relief of weariness and tired feeling. Tobacco in small amounts is also good for the same purpose.

11. Wine or alcohol if taken moderately is beneficial and recoups the energy, but in large quantity is very injurious. When there is danger of gangrene or death from cold, sunstroke or fever, it should be forbidden.

IV. *During the March*.—1. On the day before starting the shoes or socks should well arranged, the body washed and cleaned, the food well chosen, and sufficient sleep taken. If you slept little through drinking bouts, you will soon get tired during march, and moreover liable to suffer from cold and sun more easily.

2. All strings or laces that require tying, or buttons that require buttoning should be carefully attended to before starting, because that cannot be easily done during march, owing to the numbness of the hands through cold.

3. Fill the water bottle with either boiled water or tea before starting.

4. During march try to keep regular step, and do not walk with heads down. When climbing hills or marching against the wind do not talk or smoke.

5. Never get out of the column unless compelled to by circumstances, because running after in order to catch up with the column tires one excessively.

6. Try to drink as little as possible during the march. The bad habit of drinking water, when thirsty, induces and does not stop thirst.

7. When hot, do not take a large quantity of water at once, because it is injurious and at times causes death. Therefore drink water gradually in small quantities.

8. During the march if you get thirsty do not eat ice or snow, because it only increases the thirst.

9. During rest button up your collar and do not permit the sun to shine directly on the head.

10. Lying down on the wet ground when hot is injurious. Therefore choose dry ground, or sit on the ground after covering it with straw, dead grass, or fallen branches.

11. Always attend to the feet when resting. If there is any sign of redness go to the medical officer and ask for an ointment to rub on them. In addition to the ointment a specially prepared powder may be used.

12. Pay careful attention to the socks. Pull out any wrinkles, and afterwards change from one side to another. If wet put on fresh new ones.

13. In order to recover energy when tired the feet should be rubbed with a wet cloth, and the hands, face, and neck should be washed with cold water.

14. During resting if impossible to obtain good water to ease thirst, keep a pickled plum in the mouth or bite harmless things, like leaves, straw, etc., because they ease thirst for a time.

V. *Houses or Quarters*.—I. *Barracks*.—1. In Corea

and China the houses are warmed by heating the floor. If the Japanese charcoal fire pot be used in these houses there is danger of death through poisoning by a carbon monoxide gas.

2. If the stove is damaged and cannot be used the charcoal fire pot may be used, but in that case the windows should be left open all night or new windows might be cut, so that there will be good ventilation.

3. In Corea and China the flies are exceedingly numerous, and coming in contact with food they become the medium of infectious diseases. Special precaution should be taken against them. Bedbugs are found almost everywhere, and often disturb the sleep. As they sometimes cause skin disease, some special precautions must be taken, or ask the medical officer to give you medicine to get rid of them.

4. In Corea and China there are no lavatories in the houses, therefore temporary lavatories are generally built at headquarters, but if they cannot be constructed in time, each soldier should dig a hole and after excreting cover it with dry soil, so as to prevent flies from coming in contact with it and becoming the medium of transmission of infectious diseases.

II. *Open Quarters*.—1. If you have to sleep out in a tent always keep the tent open during the day. In warm weather, even at night time, keep several places open in order to let the air in.

2. Straw, dry grass, fallen leaves, etc., used for bed in the tent should be taken out often and dried in the sun.

3. In warm weather the tents may be advantageously arranged in the open method and in cold weather in the closed method. Those not in use should be used for covering the ground to protect against moisture.

4. In winter the feet especially become cold and are liable to get frozen easily; therefore the best way is to wear double or several layers of socks, then cover them with straw, and finally use the overcoat when going to sleep.

5. When snow laden, do not sleep on the ground, because even when hardened it gradually begins to melt, and by wetting the clothes takes away the bodily heat. In consequence, there is danger of gangrene or death from cold. Therefore, always clear the snow off the ground and heap it up around, so as to make a snow bank. Then sleep in it, but the entrance should be made against the wind.

6. Lavatories need the same care as in barracks.

VI. *On March*.—The most fruitful sources of trouble to the soldier on the march are boot sores, cold and thirst. As the first has already been mentioned we shall give some points about the last two now.

A. *Cold*.—1. The common sites of freezing are the tips of the fingers, the feet, ears, and nose, that is, the parts lacking sufficient nutrition, owing to poor circulation. Therefore, when on the move during winter pay special attention to these parts. Moreover, before starting, rub the hands and feet with ointment.

2. The radical preventive measures are to wear warm protective winter clothing, to keep up the nutrition and to have sufficient sleep. When the sleep is insufficient, everybody gets easily weary of exercise and low spirited, and when sufficient nutrition has not been taken, the bodily heat is lower and the resisting power is weakened.

3. Alcoholic spirits give temporary warmth to the skin, but lower the general body heat and so aid in freezing and death, consequently alcoholic drinks are to be avoided.

4. Exercise is very important, because it increases body heat. Therefore, even when on guard and standing at one spot, always keep step to time and keep the feet on the move.

5. Massage is a form of local exercise. If you lose feeling in the ear, nose, hands, or feet, you should be-

gin rubbing them at once, as these signs indicate freezing.

6. Head gear, gloves, and socks are protective mediums against cold. If they are torn, they should be mended.

7. Bare hands, especially when moist, should not touch frozen metals, because it causes burns.

8. The feet are particularly to be looked after, owing to the socks becoming wet and freezing to the feet. Therefore the most important preventive measure is to keep water out of the shoes or boots. Pay special attention when crossing a river or walking in the snow. If the socks become wet from water or sweat, change them during rest. The feet are important, and it has been said by a famous ancient warrior that victory rests in the feet.

9. As the head of the penis sometimes becomes frozen take care not to forget to button the trousers after urinating.

10. Chilblains are indicated by cold, pain, and loss of sensation. It is not advisable to apply warmth to the affected parts. The best way is to rub with snow, or use a cold wet bandage, and then put on an ointment. If the disease advances, the color of the skin changes and blebs are formed. Even at this stage, the disease can be stopped without progressing to a serious stage, by medical treatment.

11. If any of your comrades fall on the ground after becoming stiff all over the body, and are at the point of death from freezing, try the following measures until the medical officer arrives: (a) First carry the sufferer to a room without fire and take off all his clothes. Then rub the whole body with snow or a cold wet cloth. (b) If you find the limbs becoming soft, while making friction, put them in the water and continue to rub the whole body while pouring hot water slowly on the parts affected. (If there is no vessel in which to place the patient in hot water, try artificial respiration at once.) (c) If the hot water become lukewarm, take the patient out and dry him. Then remove him again into a fireless room on a bed and try artificial respiration. (d) If respiration recovers, give him warm tea and place him in a warm bed.

12. During march in snow, many suffer from snow blindness or snow eye. Therefore avoid looking down and wear dark spectacles or light shade to protect against sunshine.

13. Do not cross a frozen lake with the hands in the pockets, because if you fall in by some chance, you will not be able to use the hands in pocket.

B. *Sunstroke*.—1. This is a dangerous disease occurring frequently during marching in hot weather.

2. Men unaccustomed to marching, or of weak constitution, or after severe exercise or illness, or of insufficient sleep, or of loose habit, or of empty stomach, or liable to thirst, especially of drinking habit, are easy victims to sunstroke.

3. The points to be remembered are as follows: (a) Good living; (b) no drink; (c) do not forget to fill the water bottle, so as to provide for thirst; (d) do not miss either food or sleep; (e) besides, always start early so as to avoid the midday heat, and rest at that time; (f) open the column, lessen the baggage, open the clothing, letting in the air to the chest.

4. The early signs of sunstroke are: (a) Profuse sweating; sweat falling from face in drops, running into eyes and neck, accumulating in epigastric region; (b) the head and skin all over the body become heated; (c) respiration becomes difficult, there is palpitation of the heart, and chest motion is uneasy. If you are in these conditions ask leave to drop out and rest in the shade. Then take a drink of water and open the coat and shirt wide. Next wash the head and wipe the chest with cold water. If you do this you will soon recover.

5. If you go on staggering in spite of these signs

the sweat will stop, the skin becomes dry, the saliva will stick in the mouth, the pulse becomes weak, the respiration shallow, and finally you fall into a state of coma. If not treated in time, the man is sure to die.

6. If one falls down in that state treat him as follows till the arrival of a medical officer: (a) Carry him to a shade, giving plenty of fresh air, and take off his coat and trousers. Loosen the shirt and lay him with the upper portion of body raised. Forbid crowding around him. (b) Wash the head, chest, and all over with cold water. Or cover the body with wet cloth, and by pouring water keep it wet. (c) If the respiration is difficult, apply artificial respiration. (d) While applying artificial respiration, a fan should be used all the time. (e) Rub the hands and feet. (f) When he becomes conscious let him drink a large quantity of water.

VII. Infectious or Contagious Diseases.—I. The

as typhoid. As unripe fruits cause diarrhœa, do not eat them.

4. As smallpox still prevails in China and Corea, do not go anywhere near the infected houses even if you have been vaccinated.

5. The pest generally enters the body through a small wound. So if there is any sign of pest epidemic always go to a medical officer even if the wound is slight. Moreover, you must not walk in bare feet and must keep the gloves on. As rats or flies are the chief causes of this disease try to get rid of them as well as possible, and let them not touch the food.

6. Malaria is introduced by mosquitoes. Therefore always keep them off by the mosquito net or other methods.

7. Gonorrhœa, syphilis, etc. These diseases are caused by coming in contact with women suffering

TABLE I.—NUMBER OF DEATHS AND WOUNDED IN THE WAR OF JAPAN AND RUSSIA, 1904-1905.

| Instant death. | | Wounded. | | Unknown. | | Loss. | | Total. |
|----------------|-------------------------|-----------|-------------------------|-----------|-------------------------|-----------|-------------------------|---------|
| Officers. | Petty officers and men. | Officers. | Petty officers and men. | Officers. | Petty officers and men. | Officers. | Petty officers and men. | |
| 1,657 | 41,562 | 5,307 | 148,366 | 53 | 5,028 | 7,017 | 194,956 | 201,973 |

Subofficers are here included with the officers. The table was made from the reports received until June 30, 1905, concerning troops in Manchuria, and till the end of August, 1905, concerning troops in Corea and Sakhalin. The proportion of instant deaths of officers is 1 to 3.25 and that of petty officers and men is 1 to 3.56. The table shows that the officers died instantly in a larger proportion than petty officers and men. The proportion of death, including both instant and subsequent death, is 1 to 3.94. (The number of deaths are 1,522.)

TABLE II.—NUMBER OF PATIENTS TAKEN INTO THE FIELD HOSPITALS FROM THE BEGINNING OF THE WAR UNTIL AUGUST 31, 1905.

| Wounded. | | | Accidents. | | | Infectious or contagious diseases. | | | General diseases. | | | Total. | | |
|------------|--------|-------|------------|--------|-------|------------------------------------|--------|-------|-------------------|--------|-------|------------|--------|--------|
| New cases. | Cured. | Dead. | New cases. | Cured. | Dead. | New cases. | Cured. | Dead. | New cases. | Cured. | Dead. | New cases. | Cured. | Dead. |
| 146,813 | 15,018 | 8,304 | 16,456 | 4,147 | 237 | 17,866 | 2,044 | 5,961 | 203,270 | 23,063 | 6,850 | 384,405 | 44,272 | 21,352 |

The above table may have to be corrected afterward. The total number, 12,811 to that of death from wounds is 1 to 4. proportion of death from infectious and general diseases (the

TABLE III.—THE TABLE OF TERMINATIONS OF THE PATIENTS TRANSPORTED FROM THE FIELD TO THE INTERIOR.

| Classification. | Officers. | | | Subofficers. | | | Petty officers and men. | | | Noncombatants. | | | Total. |
|------------------|-----------|------------------------------------|----------------|--------------|------------------------------------|----------------|-------------------------|------------------------------------|----------------|----------------|------------------------------------|----------------|--------|
| | Wounded. | Infectious or contagious diseases. | Miscellaneous. | Wounded. | Infectious or contagious diseases. | Miscellaneous. | Wounded. | Infectious or contagious diseases. | Miscellaneous. | Wounded. | Infectious or contagious diseases. | Miscellaneous. | |
| Cured | 1,097 | .. | 930 | 287 | 1 | 227 | 50,690 | 460 | 73,327 | 64 | 50 | 10,477 | 15,484 |
| Invalid | 3 | .. | 10 | 2 | .. | 1 | 11,355 | .. | 4,113 | .. | .. | .. | 3,601 |
| Death | 26 | 1 | 18 | 3 | .. | 3 | 925 | 311 | 2,125 | 1 | 40 | 138 | .. |
| Miscellaneous .. | 1,089 | 9 | 801 | 346 | 3 | 167 | 36,941 | 1,095 | 57,207 | 51 | 133 | 1,072 | .. |
| Remains | 137 | 1 | 178 | 27 | .. | 51 | 9,604 | 42 | 14,790 | 3 | 10 | 1,095 | 25,938 |
| Totals | 2,352 | 11 | 1,937 | 665 | 4 | 449 | 109,525 | 1,908 | 151,562 | 119 | 233 | 12,782 | .. |

Totals. 2,352 11 1,937 665 4 449 109,525 1,908 151,562 119 233 12,782

REMARKS.—This table is made referring to the reports received from the beginning of the war till the end of August, 1905. The miscellaneous includes those cases sent back to their own homes and discharged from other circumstances. This table may have to be corrected later. The total number of patients transported back from the field to the interior is 281,587. The proportion of the wounded to that of infectious and general diseases with accidents is 100 to 150.

cause of infectious or contagious diseases is not internal, but is due to a poison which always comes from outside, and special care is necessary to protect ourselves. These poisons are very minute organisms, generally

TABLE IV.—NUMBER OF NEW CASES IN SUMMER MONTHS.

| | June. | July. | August. | September. |
|---------------------------|-----------|-----------|-----------|------------|
| | Per cent. | Per cent. | Per cent. | Per cent. |
| 1904-1905, the whole army | 7.63 | 8.70 | 7.92 | 5.63 |
| 1903, in peace | 11.06 | 13.66 | 13.91 | 11.55 |

TABLE V.—NUMBER OF INFECTIOUS AND BERIBERI PATIENTS FROM THE BEGINNING OF THE WAR IN 1904 TO THE LAST DAY OF AUGUST, 1905.

| 1868. | | | | | | | | | | | | | | |
|---|---------|----------------|---------|------------|---------|-------------|---------|----------------|---------|------------|---------|------------|---------|-------|
| Smallpox. | | Scarlet fever. | | Typhus. | | Diphtheria. | | Typhoid fever. | | Dysentery. | | Beriberi. | | |
| New cases. | Deaths. | New cases. | Deaths. | New cases. | Deaths. | New cases. | Deaths. | New cases. | Deaths. | New cases. | Deaths. | New cases. | Deaths. | |
| Totals | 347 | 33 | 10 | 2 | 51 | 11 | 9 | 1 | 9,722 | 4,073 | 7,642 | 1,804 | 97,572 | 3,956 |
| This table may also have to be corrected afterward. | | | | | | | | | | | | | | |

This table may also have to be corrected afterward.

not visible, and if they once get into the body and find a suitable spot they grow and develop grave disease, and may finally cause death. From ancient times there have been more deaths from disease than from wounds in war time. The chief instruments of this dreadful result are the infectious diseases. Therefore the sanitary arrangements of the headquarters are very strict, but every individual soldier should pay strict attention to all details.

2. The most common disease attacking the army, both in time of peace and of war, is typhoid fever. The poison enters the body chiefly through the food, and therefore do not eat uncooked food or drink unboiled water. This is most important. As poison is sometimes introduced into the body with the food through the mouth, to which it is conveyed by the fingers, the hands should always be washed before food is taken.

3. The poisons of dysentery and cholera are also introduced through food, and require similar treatment

from them. Therefore keep in mind that the Chinese and Korean loose women are all infected, and do not touch them. If you do, you will not only invite calamity with shame to yourself, but leave unending trouble to your descendants.

8. Among the infectious eye diseases the most important is the infectious conjunctivitis. This is introduced through using a common washing basin, towels, etc. Therefore when this disease prevails avoid using the same utensils as others use, but if there are no available vessels, wash them several times with clean water before using. Another disease to be careful about is the gonorrhœa, because the eyes are often attacked through touching them by infected hands.

TABLE VI.—COMPARATIVE TABLE OF INFECTIOUS DISEASES PER 1,000 OF MEN.

| | Cholera. | | Typhoid fever. | | Dysentery. | | Malaria. | |
|-----------------------|----------|---------|----------------|---------|------------|---------|----------|---------|
| | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. |
| Japan-China war | 82.77 | 50.86 | 37.14 | 10.98 | 108.96 | 15.72 | 102.58 | 5.29 |

| | | | | | | |
|-------------------------------|-------|-------|--------|-------|-------|------|
| North China trouble | 36.42 | 12.14 | 108.71 | 33.65 | 95.61 | 2.20 |
| Japan Russo war | 9.26 | 5.16 | 10.52 | 2.68 | 1.96 | 0.07 |

This table is made with the reports received from the beginning of the war till the last day of May, 1905, and may also have to be corrected later.

TABLE VII.—TABLE OF THE MEDICAL OFFICERS OF THE ARMY OF JAPAN.

| Ranks. | November 10, 1905. | | | |
|---------------------------------------|--------------------|----------|----------|--------|
| | Active. | Reserve. | Retired. | Total. |
| Surgeon, lieutenant general | 1 | 3 | .. | 4 |
| Surgeon, major general | 7 | 2 | 2 | 14 |
| Surgeon, colonel | 37 | 5 | 3 | 45 |
| Surgeon, lieutenant colonel | 43 | 6 | 5 | 54 |
| Surgeon, major | 176 | 29 | 19 | 224 |
| Surgeon, lieutenant | 143 | 78 | 74 | 595 |
| Surgeon, lieutenant, junior | 232 | 866 | 110 | 1,208 |
| Surgeon, second lieutenant | 234 | 2,076 | 6 | 2,316 |
| Probational surgeons | 38 | .. | .. | 38 |
| Totals | 1,211 | 3,065 | 219 | 4,495 |
| Pharmacists: | | | | |
| First-class inspector | 1 | .. | .. | 1 |
| Second-class inspector | 2 | .. | .. | 2 |
| Third-class inspector | 8 | 4 | 1 | 13 |
| First-class pharmacist | 53 | 7 | 5 | 65 |
| Second-class pharmacist | 30 | 72 | 9 | 111 |
| Third-class pharmacist | 16 | 428 | 2 | 446 |
| Totals | 109 | 511 | 17 | 637 |
| Grand totals | 1,320 | 3,576 | 236 | 5,132 |

TABLE VIII.—TABLE OF DEATH AND WOUNDED OF THE MEDICAL OFFICERS DURING THE WAR.

| Ranks. | Deaths. | Wounded. |
|-------------------------------------|---------|----------|
| Surgeon colonel | 1 | 60 |
| Surgeon lieutenant | 2 | |
| Surgeon lieutenant junior | 6 | |
| Surgeon second lieutenant | 9 | |
| Total | 18 | |

General Remarks.—During the recent war we had to take the strictest precautions to keep our men free from epidemic disease by the execution of various plans devised at the beginning of the war. For instance, as the supply of water, we had to provide water carriers drawn by four horses, water boiler cart drawn by one horse, and boiled water stations as well as small provision pan; thus a soldier can have boiled water by boiling it with his own pan when he finds the necessity of doing so. At the boiling water station during the march, the soldiers had to fill their own canteens with boiled water. During the march, when they exhausted their own canteens, they had to get water from the water boiler car which always accompanied the troops, and the water carriers were almost always with them. When they had to get water from a stream or river, they were ordered to get the drinking water from the centre of the stream so as to avoid the impurities coming from the bank of the rivers; even then the water had to be boiled before they took it. From experience they found it difficult to know whether water which they got during the night was pure or dirty, as the light was not sufficient. Therefore we had to take great precautions during the night march.

Food.—Almost all foods were sent from the interior to the front under strict superintendence of officers in ranks, but of course whenever fresh food could be obtained keen precautions were taken not to get any injurious materials from the natives, because there was some danger of poison being mixed with the food, and thus we tried our best to give them fresh food as much as possible. During severe winter the soldiers were required to keep their provision box wrapped with a piece of flannel and keep it under the overcoat, so as to prevent its freezing. They were ordered also to cook their rice each time they had to eat, according to the circumstances, and also at times they had biscuit in place of rice and barley. During the hottest part of sum-

mer they added a small quantity of acetic acid to the rice and barley cooked in order to prevent decomposition. In addition to a regular supply of food material, the soldiers were allowed to buy eatables according to special regulations laid down prohibiting them from buying directly from the natives. Sake was allowed to each of them in average of two ounces as an extra, under strict superintendence of the medical officers. Sweets were allowed to those who had no inclination to drink sake.

Camping.—As to camping on the march, a so called camping party, consisting of the line and medical officers, was sent ahead so as to see if the camping place could be made safe from the strategical as well as the sanitary point of view. Medical officers had to inspect the source of water supply, the conditions of houses found there, and the people living therein. When medical officers found any water which was unfit to drink, they put up a notice cautioning the troops not to take it, and in special cases where there was great liability for the soldiers to drink the water a guard was kept on the polluted water supply.

The natives had to be inspected in order to determine if they were suffering from any preventable disease, and if it was found that they had such, they were removed to special quarters, where they could be cared for by the medical officers. As to the peasants' houses which might be used for quarters, these were cleaned from corner to corner and disinfected, and the grounds about the houses as well as those outside the camping tents were cleaned and disinfected. Afterwards the medical officers cleaned daily and burned all the combustible refuse by fire or buried the same. Excrements were treated in the same way as the others.

Considerable trouble with flies had to be overcome. At the beginning various methods for killing flies were devised, but they were so numerous that the army was practically overwhelmed by their invasions. It was soon found that they lay their eggs in manure as well as in refuse, and now all the manure was burned as quickly as possible, and in this manner we have been able to diminish the number of flies.

Clothes.—In addition to washing the clothing as often as opportunities permitted, disinfecting apparatus with which the clothes, etc., belonging to each soldier could be disinfected or sterilized were put in operation. Each apparatus had a capacity of disinfecting for twenty men at one time and more than one hundred apparatus were utilized. I believe that they were a very useful means of preventing the spread of epidemic disease.

Sending the Troops to the Front.—Before the troops were sent out to the field they were made to undergo strict inspection by medical officers to see whether there was danger of any form of epidemic disease being amongst them. When such were found they were all disinfected and sent out.

As to transportation of troops from the front back to the interior, all the troops had to be disinfected at quarantine stations and then were allowed to land. Three quarantine stations, the principal of which is that of Ninoshima, where they disinfected 6,000 men in the course of twenty-four hours when in active use. Both steam sterilization and use of formalin

with steam, of which I do not think there is any necessity of description because they are all the same as you find in your own quarantine stations.

All transport ships were thoroughly cleaned and disinfected each time they came back to the ports, and the interior of them were cleansed and disinfected with steam, etc.

Treatment of Wounds.—Our army surgeons were in favor of conservative surgery and all wounds were treated aseptically as far as possible. In a great many cases the wounds were healed by the end of a week or ten days without having to change the first dressing. Major operations were avoided as much as possible in the front. Of course, after transportation to the interior such operations were performed according to the nature of the wounds. The medical officers applied various means in the treatment of the wounded in the front, according to their nature, but, after all, aseptic surgery was the principal object. As to the results and terminations of all the cases treated we are not yet in position to inform you, because such a large number of troops and medical officers were employed, and consequently the reports which have to be made from the front army corps had not arrived at the time when I obtained the reports which I have here given you. As one example of the results and terminations of treatment, I give you a short account of the hospital established in Hiroshima.

The hospital was established in April of 1904 and the report covers the time up to November 30, 1905. During this interval the hospital admitted 203,782 cases, whence 162,885 were transferred to other hospitals, but the average number of patients in the hospital was about 5,000 and the largest number the hospital had at a time was 10,000. Almost all serious cases were kept in the hospital because they were unfit for transportation, yet the result was so good that the ratio of death and invalided is a little above one per cent. Almost all the wounds of the soft tissues healed within ten days; those with injuries to the bones have obtained favorable results excepting those who were wounded at the siege of Port Arthur. The many men who were wounded in the head and chest have recovered from the wounds received, and there were also many cases of aneurysmal varix, wounds of nerves, requiring operations. The number of operations performed at the hospital amounted to more than 3,500.

Philosophy of Medicine.—The philosophy of medicine and of medical fraternization has many recorders in this country, who, aside from their scientific work, have written down for us the things which have cemented our profession and helped to create its *esprit de corps*. Jacobi, the dean of our medical philosophers; Senn, the traveler and narrator; Osler, the well beloved man of equanimity, sojourning for the time at Oxford; Roswell Park, the historian; Carl Beck, who has done more than any other to make Germany acquainted with the American medical profession; Keen, of Philadelphia, whose volume of addresses has just appeared; Weir Mitchell, the man of letters and culture—these are a few of the men who have written the philosophy of medicine. The strenuous work of the doctor and the irksomeness of general practice have been ameliorated by these medical philosophers, who have helped and entertained and brightened the path with their sidelights upon the practice of medicine.—*New York State Journal of Medicine*.

Original Communications.

ARTERIOSCLEROSIS: ITS RELATION TO DISEASE OF THE NERVOUS SYSTEM AND TO DISORDER OF ITS FUNCTION.*

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NEW YORK.

The relation of arteriosclerosis to disease of the nervous system and to disorder of its functions is a close one. Knowledge of this fact has become widely disseminated during the past few years. Before that it was taught and believed that cerebral apoplexy had a definite relationship to disease of the arteries leading to sclerosis of their walls, but scarcely to any other disease. Now it is generally recognized by neurologists that the question of the existence of arteriosclerosis enters into the diagnosis, prognosis, and treatment of nearly every chronic nervous disease, functional and organic. Few problems in internal medicine are of greater importance to mankind than the early recognition of arteriosclerosis, general and local. Integrity of the vascular system is essential to metabolism and to the functional efficiency of every organ. When the bloodvessels become diseased the impairment of one organ may condition a distinct set of symptoms referable largely to that organ, such as the kidneys or the brain, and these symptoms may constitute a group which are designated by a special name, and which come to be considered as indicative of a disease of that organ, but in reality such symptoms have a much wider significance, for in every such instance the adequacy of the entire organism is lost proportionally to the extent and intensity that the bloodvessels are diseased. For instance, there is a well defined group of symptoms associated with and in a large measure dependent upon that variety of chronic contracted kidney which results from a gradual progressive sclerosis of the bloodvessels of that organ. If one does not recognize that in all such cases there is invariably more or less arteriosclerosis of other viscera, of the central nervous system, and of the skeletal structures, the problem of the patient will not be solved satisfactorily. In other words, in the vast majority of instances, we are dealing with a general disease with predilection for certain localities. It is to the symptoms and symptom groups referable to various portions of the central and nervous systems to which I invite your attention. I shall be obliged to confine myself closely to clinical descriptions, for the limits of time permit me only to refer most briefly to present day teachings concerning the pathogenesis of the disease.

Within the present generation arteriosclerosis has advanced from the position of a senile manifestation and a necessary accompaniment of old age, which our predecessors had given it, to one of the commonest sequences of the strenuous, disordered life. There can be no doubt that it occurs much oftener now than it did formerly, just

* The Jerome Cochran Lecture to the Medical Association of the State of Alabama, April 18, 1906.

as paresis and other diseases do. We infer the existence of a disease before its recognition and description by physicians from examination of records made in detail by sufferers from such disease. The neurasthenia of Johnson, the hypochondria of Aelius Aristides, the morbid vapors of Horace, etc., bear witness to this. Such search does not lead one to the conclusion that arteriosclerosis was a common disease of our ancestors. It has come as a stigma of evolutionary development—of advance in civilization, if we wish thus to speak of our present cosmic position—pointing to erroneous modes of life, as tuberculosis did in relation to our predecessors. The fact that we are more alert to its existence and utilize methods of precision for its recognition formerly unknown, does not account for the frequency with which we encounter it to-day.

This article is based upon a study of 800 cases of arteriosclerosis taken from the records of 10,000 consecutive cases of nervous disease. I do not mean to say that there were not more than 800 cases of arteriosclerosis in that number, but these figures represent the number of times that the diagnosis was actually made. The statements made in this paper relative to its causes and manifestations are based entirely upon a study of these cases. Arteriosclerosis may cause: (1) Diseases of the nervous system that are well defined clinical entities, and are therefore described as definite diseases; (2) it may superimpose definite or indefinite symptoms upon any disease, incidentally altering the clinical feature of the disease; (3) it may give rise to symptoms which are so disparate that it is difficult to group them under any one heading whence they are therefore often considered to be functional, neurasthenic, or hysterical; and (4) it may cause symptoms almost identical with those of well known diseases. Small wonder that a pathological condition which causes such various symptomatic conditions should be so often overlooked. The chief reason why it has been overlooked, I think, is that we have been content to accept the teachings that the premonitory symptoms of cerebral and cerebellar arteriosclerosis are symptoms or forerunners of a disease called apoplexy, which has a definite ætiology, symptomatology, prognosis, etc., instead of a disease of a certain structure of the brain, viz., the bloodvessels which induced pathological changes in the brain itself.

In a similar way our textbooks have taught that the symptoms of chronic contracted kidney were all to be explained by perversion of the function of that viscus. The nervous, respiratory, circulatory, digestive, and metabolic phenomena were all due to the action on the different parts of the economy of toxic substances which should have been eliminated by the kidneys. In reality, the majority of such symptoms are clearly due to sclerosis of the bloodvessels of the various viscera of which the contracted kidney is only a small part. It is the detection of this widespread vascular participation in the pathological process and its early recognition that permits us to interpret the symptoms and to treat intelligently the conditions that are presented.

The desirability of the early diagnosis of ar-

teriosclerosis is the greater because of what would seem to be the fact that in its incipency the pathological process may be checked. The difficulties of early diagnosis are very great and regrettably, the diagnosis must still often be empirical. Vessels susceptible of examination, manual or instrumental, may be free from perceptible sclerosis while others inaccessible are well advanced in the process which is productive of symptoms. Although arteriosclerosis is a general disease before it terminates, in the beginning it is not infrequently local. One has then, in some instances, to predicate diagnosis on symptoms learned from experience with patients who have been followed until they present easily recognized physical signs indicating this disease. But in this respect one's opportunities and incumbrances are neither greater nor less than in some kidney diseases which must be diagnosed without the aid of definite physical signs such as the presence of albumin and casts.

The physician whose practice brings him in frequent contact with nervous diseases finds that he makes the diagnosis of many functional and organic diseases plus arteriosclerosis, which latter has a distinct bearing on the course and prognosis of the disease. On the other hand, in not a few instances he makes the diagnosis of arteriosclerosis, cerebral, cerebellar, medullary, splanchnic, or peripheral alone. He finds also when he comes to examine on the autopsy table the bodies of those whom he has studied during life (1) that the lesions of arteriosclerosis are found oftener than he suspected, and (2) that the lesions of the vessels are frequently most uneven in their distribution. In the aortas in one case, in the visceral vessels with comparative preservation of the large vessels in another, in the cerebral vessels, those of the viscera being fairly normal, in another, and finally, revealing themselves in any part of the body only on microscopical examination.

I find on reviewing my histories that the diagnosis of arteriosclerosis of the nervous system has been made in 206 patients, and that the diagnosis superimposed upon some definite disease has been made in 595 patients. In other words, arteriosclerosis of sufficient severity to be recognized has been noted in upward of 800 cases.

The diagnoses of the 595 patients were as follows:

| | Cases. |
|---|--------|
| Acroparesthesia | 28 |
| Alcoholism (including alcoholic tremor, insomnia, but not alcoholic neuritis): | |
| Nervousness | 3 |
| Alc. confusional insanity | 11 |
| Alc. pseudoparesis | 4 |
| Amyotrophic lateral sclerosis | 2 |
| Aphasia (without hemiplegia) | 7 |
| Apoplexy (of all kinds depending upon arteriosclerosis, hemiplegia being its conspicuous symptom) | 88 |
| Arthritis (usually rheumatic) | 15 |
| Arthritis deformans | 5 |
| Asthma | 1 |
| Autointoxication (depression, inertia, dysomnia, coated tongue, foul breath, constipation, often put in neurasthenic class) | 14 |
| Bulbar paralysis | 2 |

| | |
|---|-----|
| Cerebral concussion and laceration..... | 3 |
| Dementia præcox | 1 |
| Disseminated sclerosis | 2 |
| Epilepsy (five Jacksonian)..... | 12 |
| Erythromelalgia | 4 |
| Exophthalmic goitre | 3 |
| Facial paralysis | 1 |
| Gastric catarrh, chronic gastritis, ulcer of stomach.. | 5 |
| General paresis | 14 |
| Headache (in which other attributable conditions
than arteriosclerosis existed)..... | 27 |
| Hysteria | 9 |
| Insomnia | 19 |
| Intermittent claudication (of leg 4, of arm 1)..... | 5 |
| Lumbago | 5 |
| Manic depressive insanity..... | 2 |
| Melancholia (involution) | 6 |
| Meniere's disease | 2 |
| Migraine | 12 |
| Muscular atrophy (progressive)..... | 2 |
| Myalgia | 8 |
| Chronic myelitis | 1 |
| Neuralgia: | |
| Trifacial | 8 |
| Occipital | 1 |
| Supraorbital | 4 |
| Brachial | 6 |
| Intercostal | 1 |
| Pedal | 1 |
| Unclassified | 5 |
| Neurasthenia | 107 |
| Neuritis: | |
| Alcoholic | 14 |
| Lead | 3 |
| Brachial | 5 |
| Lumbar and crural (including diabetes)..... | 10 |
| Occupation neurosis | 3 |
| Optic atrophy (primary)..... | 1 |
| Paralysis agitans | 20 |
| Paranoia | 1 |
| Pes planus | 11 |
| Postinsolation psychosis | 1 |
| Syphilis (cerebral and spinal)..... | 12 |
| Tabs | 32 |
| Tic, psychomotor | 1 |
| Tic facialis | 1 |
| Tobacco poisoning (tachycardia, depression, tremor) . | 2 |
| Torticollis | 1 |
| Traumatic neuroses | 8 |
| Tremor (exclusive of varieties previously mentioned) | 8 |
| Tumor of brain | 2 |

DEFINITION.—Arteriosclerosis is a disease of the bloodvessels, arteries, capillaries, and veins, predominantly of the arteries and capillaries, insidious in its origin and gradual in its progress, which leads to thickening, hardening, and brittleness of the vessel, and to the physical entailments of such alteration, principally impairment of distensibility, contractility, and elasticity. The symptoms which it produces are conditioned by the alteration which these cause upon the intervacular and circumvascular contents. The original histological alteration is most likely a fatty degeneration and disintegration in foci of varying size of the tunica intima which impairs particularly the elastic fibres. This is followed by connective tissue replacement both in the internal and middle coats. The macroscopic alterations of the bloodvessels may be very striking, or they may be very slight, depending largely upon how advanced such secondary changes as atheroma and sclerotization have gone on. The arteries are dilated and lengthened, tortuous in their course, or they are narrowed. When cut across they gape to a greater or lesser degree. The term arteriosclerosis was originally introduced by Lobstein, who, however, did not use it in the comprehensive sense in

which it is used to-day by the majority of pathologists and clinicians.

Marchand, and there is no greater authority on the subject, says (*Congress für innere Medizin*, xxi, 1904) arteriosclerosis, in the widest sense of the term, includes all those changes of arteries which lead to thickening of the wall, especially of the intima, and during whose development such degenerative changes as fatty degeneration with its sequelæ, sclerotization, and calcification occur, as well as inflammatory and productive processes.

It is not the purpose of this study to discuss the morbid anatomy of arteriosclerosis. The alteration of the bloodvessel which the disease causes is well known and subject to remarkably slight variation, save in distribution and intensity in different cases. The earliest changes and the way in which they are brought about are, however, still a matter of debate, and for this reason a brief résumé of the pathogenesis must be given.

PATHOGENESIS.—There is no unanimity of opinion concerning the way in which the morbid condition constituting arteriosclerosis develops. Some of the views that were formerly held concerning its pathogenesis are mentioned in the note dealing with the history of the disease. At the present time there are two radically different views concerning it. One holds that it is a primary local disease of the arterial wall which may and usually does become general. This is the older view and one that has been widely accepted. The other is that arteriosclerosis is an epiphenomenon, as it were, of a progressive and general disease in which, however, the alterations of the smaller vessels play an important part by producing nutritional disturbances and connective tissue sclerosis of the viscera and of the central nervous system.

The most important question in the pathogenesis of the disease to-day is its relationship to increased blood pressure. For some, increase of blood pressure is the sole conditioning factor of the disease, for others it is the result, not constant, but one of the commonest manifestations. For instance, a recent writer on the subject (Cowan, *Practitioner*, March, 1906) says (without, however, giving any tangible reason for the statement): "The essential cause of arterial sclerosis is an increase of arterial tension." On the other hand, Romberg, in a discussion on the subject at the *Congress für innere Medizin*, xxi, 1904, maintained that increased blood pressure was absent in 90 per cent. of his cases, and that it was very rare in uncomplicated cases.

Likewise Sawada (*Deutsche medizinische Wochenschrift*, March 17, 1903) says that in 206 cases of arteriosclerosis only 12.3 per cent. showed increased pressure. Dunin (*Zeitschrift für klinische Medizin*, liv, 1904) found that in eighty cases out of a total of 440 the pressure was not increased. Allbutt (*Lancet*, March 7, 1903), who denies that elevation of blood pressure depends directly upon arteriosclerosis, suggests that we attempt to differentiate three classes of arteriosclerosis: (1) The senile, not necessarily or usually associated

with rise of arterial pressure; (2) the mechanical, the result of long continued blood pressure of whatever origin; and (3) the toxic, in some of whom we have high blood pressure, in others not. This is an arbitrary division, but one to which my experience teaches me to subscribe. This may likewise be taken as a subscription to the view that is constantly gaining ground that arteriosclerosis is in the main the result of increased taxation through functional overstrain of the arteries.

Grodel has taken a very similar position. A high blood pressure always suggests arteriosclerosis, but it is not a necessary component of the disease. It is invariably increased when contracted kidney exists simultaneously.

For some years past Russell, of Edinburgh, has contended that there is a most important relationship between arteriosclerosis and hypertonus, i. e., a prolonged or oft recurring increase of the normal degree of contraction which the vessels have in virtue of their muscle coat. Recurring or continued hypertonus leads to hypertrophy of the media of the arteries. The thickening of the intima he believes is the direct result of the action of deleterious substances circulating in the blood which act on the subendothelial connective tissue, irritate it, and lead to hyperplasia. The hypertonus "can be either suspected or recognized by the educated finger." The chief cause of it is the introduction of poisons into the system or autointoxication.

The theory of Russell is not, of course, entirely new. It embraces part of the teachings of Traube, Rokitsky, and Thoma. There is this, however, to be said for it. The results of experimental arteriosclerosis so far as they have been reached and inconclusive as they are, seem to indicate that the primary lesion of arteriosclerosis occurs in the media, and that the changes in the intima are compensatory for the weakened media and widened lumen. The discussion of whether or not the primary changes are in the media or intima has occupied a great deal of the attention of writers on the subject and unfortunately there is as yet no unanimity of opinion concerning it, as the above brief remarks adequately show, and until we are able to study the character and circulation of the earliest histological changes, or until we are able to cause genuine arteriosclerosis experimentally, it will be difficult to decide the question. Pathologists occupied at the present time seem to be more nearly of one mind than ever before that the primary changes of arteriosclerosis are of the intima (as previously stated) and not of the media (Jores, Marchand, *et al.*).

It must, however, be admitted that hypertonus does occur as a preceding and accompanying condition of arteriosclerosis and that in many cases it is the immediate cause of symptoms attributed to arteriosclerosis there can be no doubt.

SYMPTOMS OF ARTERIOSCLEROSIS OF THE NERVOUS SYSTEM.—Arteriosclerosis of the brain and arteriosclerosis of the cord must come to be recognized as distinct diseases. In many instances they cause symptoms and groups of symptoms that are characteristic of other diseases, when

the process is confined narrowly to certain areas of the encephalon and the cord. In other instances, however, they cause symptoms and symptom complexes that are extremely characteristic. Just as the pathological alterations in the bloodvessels may vary from the slightest change in the elastic fibres of the vessel walls to the most extensive destruction of the tissues which the vessels supply, so the symptoms may be the slightest vertigo or the profoundest dementia, and between these two there may be almost any kind of subjective and objective disturbance, paralysis, aphasia, hemiamopsia, emotional upheavals, bulbar, and spinal symptoms of every sort. It is, however, the minor symptoms of arteriosclerosis of the central nervous system that need study and interpretation, just as do the early and minor manifestations of this condition in other parts of the body. In reality, the existence of arteriosclerosis of the central nervous system can be stated with absolute certainty only when disease of the bloodvessels is found in other parts of the body as well.

In this connection it may be well to make a brief statement concerning the relationship between general arteriosclerosis, arteriosclerosis of the cerebral nervous system, and disease of the kidney. There can be no doubt that arteriosclerosis of parts of the central nervous system may exist without general arteriosclerosis. That the reverse of this is not true is obvious. There can be no doubt that the bloodvessels of the brain or cord may be diseased and the bloodvessels and parenchyma of the kidneys remain normal. But frequently the disease of the vascular system even in the beginning is so general, though slight in intensity, that evidences of incompetency are referred to different organs, and especially to the kidneys and to the brain. The symptoms of so called renal inadequacy are so largely nervous that it is not at all times easy to keep a proper perspective of them regarding their origin. The belief that such symptoms are due to inadequate elimination is based almost wholly upon hypothesis. Because albumin, hyaline and granular casts are found at times in urine of an individual who complains of vertigo, headache, and disturbed sleep, palpitation of the heart, depression of spirits, exhaustion out of proportion to physical effort, it does not follow that these symptoms are due to renal inadequacy. They may be, but they may be due also to alterations of the blood pressure or of the bloodvessels upon which the changes in the kidneys are often themselves dependent. In truth oftentimes they are. It is the recognition of this fact that has made it more urgent for us to familiarize ourselves with variations of blood pressure and with early organic changes in bloodvessels.

There is no question that the disease of the kidney commonly called chronic Bright's disease causes headache, nausea, hæmatolysis, mental depression, retinitis, malnutrition, etc., and that it is attended with high blood pressure which may in turn cause arteriosclerosis, and as soon as the latter results it will superimpose clinical symptoms of its own, which need to be reckoned with from a therapeutical standpoint.

The symptoms which arteriosclerosis of the nervous system cause are local and general. The latter are the common manifestations, or, better said the early ones. These symptoms are both physical and mental. The mental symptoms vary from slight amnesia, irritability, and diminished concentration, to profound dementia, disorientation, and confusion. The common somatic symptoms are headache; cephalic, manual, and pedal paræsthesia; noises referred to the head and ears; partial or complete syncope; disturbance of speech; and diminution of physical capacity.

I shall describe the manifestations of arteriosclerosis of the nervous system under a few captions that have been suggested to me by experience.

ARTERIOSCLEROSIS OF THE BRAIN.—There is a clinical form of cerebral arteriosclerosis that has, it seems to me, heretofore been inadequately described. I have encountered it many times and have had considerable opportunity to observe the lesions after death. The symptoms that accompany it are fairly constant, and the clinical picture is not subject to much variation. The patient complains of fugitive headache often referred to the occipital region; of slight giddiness often coupled with a sensation of insecurity of station and gait which, however, is not attributed to the giddiness; and of impaired snap or vitality. The headache is variously described, usually dull in character, and of variable severity. In some cases it is a conspicuous feature; in others it is not. These symptoms may exist for several months, or even years, before other and more striking symptoms call particular attention to the patient. The emotional symptoms, which occasionally are early manifestations, are attacks of meaningless laughter, less often of crying, which do not come on with great abruptness, spasmodic like, such as is sometimes seen in disseminated sclerosis and in ancient apoplexies, but which are like them without attributable cause and without emotional concomitant. The latter is an important feature, the patient does not feel like laughing or like crying.

The most striking feature of the disease is the alteration of the patient's appearance. The individual becomes transformed from a person expressing grace in movement and relaxation in repose, into an immobile, inanimate replica of the normal person. The immobilization gives a more or less characteristic attitude and gait, and, to a lesser degree, a characteristic physiognomy. The gait is, perhaps, the most remarkable feature of the patient. The stride is short, oftentimes only a few inches, the feet widely separated and not lifted far from the ground, the rhythm of the movement often slow, but sometimes rapid. When the patient turns he often thrusts out the hands as if to seek support, though he rarely falls. In some instances, perhaps in all, the patient can run better than walk. At first sight the clinical picture reminds one of Parkinson's disease, but on close observation they have only one feature, immobilization, in common. There are no vasomotor symptoms and secretory symp-

toms, no marked alteration in the pitch of the voice, no characteristic tremor, no festination, or other striking feature of the latter disease. Mental symptoms may or may not be present. In the majority of instances they do not play a conspicuous part, though the patient may have depression as a symptom of the disease process, or from a realization of the gravity of his infirmity. The objective symptoms aside from those that have been enumerated are few and inconsequential. The knee jerks are usually lively and in some cases that have lasted a long time the big toe phenomenon of Babinski is present, indicating secondary degeneration in the pyramidal tracts of the spinal cord, but this is not an essential clinical feature, nor is disturbance of the sphincters which I have seen in one or two instances. In some cases there is evidence of sclerosis of the skeletal and visceral arteries, but in others, perhaps the majority, there is slight involvement of them. Indeed, the blood pressure as revealed by the sphygmomanometer may be low, 110-130 (S) and the heart sounds devoid of particular change. The disease is essentially chronic and subject to little variation, save in the amount of headache, giddiness, and apparent emotional manifestation which are variable.

In private practice patients thus afflicted are often looked upon as hysterical or neurasthenic individuals, while in hospitals, especially those given over largely to patients suffering from chronic disease, they go to swell that considerable number that are neither studied nor diagnosed. After death, which in some instances comes rather suddenly from successive attacks of syncope, from intracerebral, intracerebellar, and intraventricular hæmorrhage, and from intercurrent trifling disease, such as influenza, acute indigestion, etc., very striking changes are found in the brain.

In some instances the entire brain is shrunken, in others it has a normal appearance. The vessels show the essential lesion which varies in distribution, in character, in intensity, and in extent. Sometimes, though not always, the vessels at the base of the brain are atheromatous, hard, and gaping when cut across, but in other instances the arteriosclerosis is not apparent until the brain is opened. Then the most striking alterations usually are to be seen in the middle cerebral arteries and their branches.

If death has been immediately conditioned by an accident such as rupture of a bloodvessel, naturally the results of this will be found. The alteration of the brain substance depends upon the duration and intensity of the process in the bloodvessels, and a detailed description of these to cover every case cannot be given here. In some instances there will be found secondary changes of the nature of Wallerian degeneration in the spinal cord, when the motor tracts of the brain, especially the subcortical motor tracts, are encroached upon. I am inclined to believe that this variety of arteriosclerosis of the brain will be found to be not extremely common. I have notes of fifteen cases with five autopsies out of a total of 135 cases of cerebral arteriosclerosis.

I have been accustomed to compare the condition to the contracted kidney of arteriosclerosis. Just what location and extent the arteriosclerosis must have to produce this symptom complex I am not in a position to state. One of the most remarkable features of the disease is the occasional complete absence of visceral and skeletal arteriosclerosis. In such cases the diagnosis would be difficult because of the absence of increased blood pressure, palpable thickening of the peripheral bloodvessels, and of alteration of the heart sounds, were it not for the fact that the clinical picture which it produces is quite pathognomonic.

The gait of these patients as I have previously said is one of the most striking features. Naturally this has not escaped the observation of our predecessors. Charcot (in his *Leçons du mardi*, 1888-1889, pp. 335, 469) described an abasia trepidant of the senile which is not unlike that to which I call attention, if it is not the same thing. Certain it is that the gait of patients with arteriosclerosis described by the Polish physician, Bieganski (*Medryna*, xiii, 1893), is the condition to which we refer. An article by Petren (*Archiv für Psychiatrie*, xxxiii, xxxiv), entitled Ueber den Zusammenhang zwischen anatomisch bedingter und functioneller Gangstörung in Greisenalter, gives an excellent full description of it.

A condition somewhat analogous to the one that I have been describing is that recently described by Marie (*Revue de médecine*, xxi, p. 281). In the brains of some elderly people who during life have had partial or complete hemiplegia there are found multiple lacunæ, especially in the ganglia and the pons, and their immediate vicinity. These lacunæ, in numbers from four to twelve, or so, are due to foci of degeneration which stand in relation to arteriosclerotic disease, for the small vessels of the brain ganglia are invariably found diseased.

Aside from these lacuna formations, or sieve like state of the tissues, there are often found atrophy of the convolutions, enlargement of the ventricles and cystic degeneration of the choroid plexus. Marie does not look upon the condition as a senile one, but as a manifestation of arteriosclerosis associated with senility. Senility is, however, by no means a necessary feature, as the condition has been found in an individual of thirty-eight and another of forty, but its occurrence at these ages are exceptional and in general it is rarely observed before fifty-five years. The condition is one that lasts a long time. In one of Marie's cases it existed for thirty-four years.

The symptoms of this condition are hemiplegia which comes on suddenly, rarely without loss of consciousness, and which is usually incomplete, insomuch as it is often difficult to establish the presence of hemiplegia in the arm. The most noticeable alteration aside from the hemiplegia is in the gait, which is slow, the stride short, and there is very little evidence of spasticity.

THE COMMON SYMPTOMS OF ARTERIOSCLEROSIS OF THE BRAIN.—The chief manifestations that cerebral arteriosclerosis produces aside from this symptom complex described are: (1) Insomnia

and dysomnia; (2) headache and cephalic paræsthesia; (3) vertigo; (4) the brain tumor symptom complex; (5) the neurasthenic symptom complex; (6) epilepsy, focal and general; (7) amnesia and dementia; and (8) apoplectic symptoms.

1. *Insomnia*.—It is difficult to say in any given instance that insomnia is the result of arteriosclerosis, when the disease of the bloodvessels is confined to the brain alone, i. e., when it is not associated with visceral arteriosclerosis. When it is so associated and therefore readily detected, the intracranial pathological condition may be inferred and the diagnosis easily made. The chief features of insomnia of cerebral arteriosclerosis are the time of its occurrence and its association with depression of spirits. The patient usually can sleep very well in the earlier hours of the period allotted to sleep, but awakens from 3 to 5 a. m., often in a state of depression and trepidation. The first feature it has in common with the insomnia of intestinal indigestion, and as a matter of fact it is often difficult to distinguish them from a consideration of this one symptom alone. It is not, however, so frequently associated with disturbing dreams, kaleidoscopic reviews of events and places, and night terrors, as is the latter. During the day such patients often complain of drowsiness, especially on attempting considerable mental work, and on retiring they have little difficulty in going to sleep. The depression that attends the early wakefulness is at times accompanied with insistent ideas relative to self destruction, impoverishment, and other forms of apprehensiveness. It is for the latter that many patients seek relief rather than from the insomnia which of itself does not create as much havoc as one would expect.

Physical examination ordinarily reveals the disease of the bloodvessels. In the majority of instances the blood pressure is increased, very rarely it is diminished. As an example of arteriosclerotic insomnia associated with subnormal blood pressure the following may be taken as an excellent example:

CASE.—The patient, fifty-two years old, who was formerly a stock broker, began to suffer from insomnia when forty-two years old. Sometimes he would fall asleep immediately on going to bed and would awaken about 3 or 4 a. m., remaining awake until morning, at other times he would lie awake for hours at a time before he became sleepy and frequently he remained awake the entire night. It mattered not whether he kept quiet at home evenings or whether he went out to theatre, etc. Often when he thought he would get a good night's rest he could not sleep at all. The bloodvessels were distinctly palpable and the walls were thickened, but the blood pressure was low, averaging from 115 to 120 on the Stanton. Under medication and régime directed against overcoming the disease of the cerebral vessels and the lowered blood pressure, particularly under the administration of potassium iodide, strychnine, and caffeine, the insomnia has been practically overcome.

2. *Headache*.—Like every symptomatic affection of arteriosclerosis, this is subject to the greatest variation. In some cases it is so intense as to entirely incapacitate the patient; in others it is periodical and of tolerable severity.

Its commonest location is of the back of the head, but it may be referred to other regions. It is made worse by effort, by taking stimulants and food. The pain is sometimes described as throbbing, but oftener as a grinding, boring pain. After the patient has suffered from it for a long time, it may be associated with more or less indefinite cephalic paræsthesia, quite unlike the paræsthesia of neurasthenia and occipital neuralgia, and nearly always with some vertigo. Like most of the symptoms of cerebral arteriosclerosis it is paroxysmal, at least after the disease has reached a certain stage, and during the paroxysm, especially in advanced cases, the patient is restless, distracted, sometimes even mildly delirious. At other times the headache leads up to a lethargic stuporous state, both of these being almost invariably preceded and accompanied by abrupt increase of blood pressure as shown by the sphygmomanometer. This is very well illustrated by the following history:

CASE.—The patient, a man of fifty-six, has extremely well marked general arteriosclerosis with the customary manifestations in the heart and bloodvessels. There are no symptoms of marked functional disturbance in the abdominal viscera, such as the pancreas, liver, and kidneys. When he is not having an "attack" he is able to do a great deal of light clerical work. An attack is heralded by a sensation of prostration and indifference, of increasing pain in the head boring in character, by suffusion of the face, and by marked increase of blood pressure. After a period varying from several hours to two or three days, he becomes restless and mildly delirious, and later stuporous. Some attacks last several days, others two or three weeks. After an attack the patient feels used up and recuperates slowly. Attacks are abbreviated by administering large doses of calomel (10 to 20 grains), sodium bromide, paraldehyde, and sodium nitrite.

This case may be taken as a typical example of the manifestations of hypertonus in arteriosclerosis, for it is to the accession of tension in the diseased bloodvessels and not to any real increase of the disease process that the phenomena of the paroxysm is to be ascribed. What the immediate cause may be one is not justified in saying, but it probably is some autotoxic substance having its origin in the digestive tract. The headache of beginning arteriosclerosis may likewise have the paroxysmal feature, but not necessarily. These patients complain for many years oftentimes of pain at the back of the head, a dull confusing ache, worse in the morning, but often continuous during the day, and usually relieved by some nostrum containing acetanilid and bromide. Any chronic headache with the characteristics mentioned occurring in an individual above forty years of age not associated with ocular or visceral disorder is probably of this nature, even though no evidence of visceral or skeletal arteriosclerosis can be elicited.

(To be continued.)

Malaria and Mosquitoes.—In Barbados the absence of mosquitoes and of malaria is a well known fact. This phenomenon has been lately attributed by Mr. C. K. Gibbons to the presence of a small fish, which preys on the larvæ of mosquitoes.—*The Journal of Tropical Medicine*.

THE DIETETIC TREATMENT OF THE VOMITING OF PREGNANCY.*

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The pernicious vomiting of pregnancy is as rare as the simple vomiting of that state is common. Pernicious vomiting is marked by its unforeseen occurrence, its intense symptoms, and its fatality; by spontaneous recoveries and by varying treatments, some blind and fortuitous, others successful but uncertain, and the surest one fatal to the woman's state and unfortunate to our art.

Appearing in the first, second, and succeeding months, the pernicious form of vomiting is characterized by all food and drink being ejected as soon as swallowed, with monotonous regularity. Nausea alternates with vomiting, both are increased by motion, and anorexia is followed by aversion to food aggravated by the sight, smell, or taste thereof, Ptyalism torments the patient, and rapid debility and marked emaciation appear. The breath is foetid, the thirst is acute, and there is epigastric and presternal pain. Constipation is the rule. The vomit is of food, saliva, gastric mucus, and, from the force of its ejection, bile and streaks of blood. These symptoms continue, and their force increases in the second stage, which is that of low variable fever and a pulse rate of 140. There are greater restlessness and sleeplessness, a greater thirst, and feebleness. The urine is dark colored and scanty and contains albumin or granular debris. Then comes the third and final stage of cessation of vomiting, but with no betterment of feelings or appearance, with spontaneous expulsion of a dead conception, with increasing fever and feebleness of pulse, with a typhoid state in all its helplessness, with syncope, hallucinations, delirium, and stupor and coma, followed by death. This is the description of Chomel and of Dubois followed by later writers.

The fatal course ends in two or three months. During the first and second periods the vomiting and the disease may be arrested temporarily or entirely in different ways: By treatment, by a nervous shock, by mental excitement, by abortion. When the arrest is temporary, it is but the lull in a storm which will begin again with greater force.

Pernicious vomiting has an estimated mortality of fifty-seven per cent. naturally, with treatment, of thirty-nine per cent. This prognosis must be taken in a guarded manner, and a strict distinction should be made from primary diseases of the state of pregnancy simulating pernicious vomiting and at times discovered by an autopsy, such as acute yellow atrophy of the liver, gastric ulcer and cancer, nephritis, acute tuberculosis, and cerebral tumor. For precision of diagnosis and propriety of treatment the vomiting of pregnancy should be considered pernicious whenever wasting of the body and weakness have become sufficiently great to prevent the patient from leaving her bed.

The different modes of treatment that have been commended have varied with the views of pathology, and the entirely different means and great variety of medicines prove that different factors and states

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may influence the disease and accompany its intensity, or oppose it, its course, and its cure. Spontaneous arrest is possible in the first and second stages, while all authorities agree that the third is fatal. For different ætiological reasons there have been used and commended: The treatment of the irritable stomach with cerium oxalate, bismuth, iodine, carbolic acid, creosote, menthol, cocaine, bromides, nux vomica, pepsin, hydrochloric acid, morphine, and codeine; anæsthetic sprays for the fauces, counter-irritants to the epigastrium, like ether spray and the faradic current; rectal feeding and the spinal ice bag; as an autotoxæmia, oxygen inhalations, free purgations, colon irrigation, saline rectal infusion, and saline transfusions; as a neuropathic affection, isolation, suggestion, and the other treatments of hysteria; as a reflex from the uterus and genital sphere, corrections of any malposition, treatment of cervical erosions, dilatation and divulsion of the internal circular fibres of the cervix, the treatment of Copeman (praised and condemned). The ultimum refugium is induced abortion or premature labor, some happily denying its necessity.

One who has viewed the act of vomiting in hyperemesis and who has seen the same continue with whatsoever is introduced into the stomach, who observes the restless efforts and the weakness of the patient, the looks of fear and longing without other pronounced symptoms of disease, must conclude that the vomiting is a reflex act, started by the ingesta or by motion, and that the speed and ease with which everything is expelled is facilitated by its lightness and fluidity, by its physical characters of color, taste, or smell; and that the tumultuous state of the stomach is aroused by the slightest impulse or emotion, as by the very thought of food. This hyperæsthesia of the organ is not due to any organic disease of its structure, and one cannot assume that the act of digestion is in itself retarded or arrested, but that the organ could perform its functions were it not for the state of acute unrest and excitability. Therefore the ingesta, if they excite emesis, arouse and perpetuate the vomiting.

These reflections led the writer to discard such treatments as have been mentioned, and to attempt a plan of diet with substances limited in number and of such physical structure, that, through their density and heaviness, ejection from the stomach was well nigh impossible.

The dietetics of pernicious vomiting has been overlooked or treated in a perfunctory manner without due deliberation, as by one who commends alcoholic stimulants, another only liquid foods, another a dry diet without detail of method, another rectal feeding, while still others approach the subject without considering the value of diet or emphasizing its importance. For an example this passage from Cazeaux and Tarnier may be quoted: "With regard to the regimen, doubtless a mild liquid diet composed of aliments that are easily digested seems at first to possess decided advantages over all others; but how many exceptions. How many women reject the mildest articles, even liquids, and yet readily digest less suitable substances. How often, indeed, have I not seen women eat ham, liver pie, etc., who could not digest a piece of sole or the white meat of a fowl. Of course, we must respect peculiarities of the stomach."

Of proper foods, pork, ham, or bacon is first and best. A woman who has vomited incessantly for two or three weeks, who is too feeble to leave her bed, who has received varied and unsuccessful medicinal treatment, whose whole appearance as well as that of her family is one of alarm, who expels everything as if forced by fate, will find to her intense astonishment that the emesis does not occur after a breakfast of fried ham or bacon, that partaking of other solids improves her condition, and that she is able to be up again.

In considering the factors that produce this quiet it is apparent that the chief one is the stable tone given to the distressed viscus, much like the action of ballast upon a vessel in troubled waters. Yet, the cooperation of the patient is helpful, due to new confidence and assurance that her malady can be controlled in a simple manner, that she is not doomed to enter upon worse suffering, and that she ought, in the Nature of things, to recover her health in the absence of more dangerous disease; that a condition to her so natural as pregnancy ought not to be the cause of a malady so dreadful. These thoughts awaken the energy of her will and dispel the hysterical state of passive submission.

Following the daily breakfast of pork in some form, with cocoa, chocolate, and corn bread, a dinner of beefsteak, roast or corned beef with rice, potatoes, spinach, cauliflower, kale, or turnips is offered. Fish, game, fowl, and cheese may also be suggested, and they help to make up the evening meal.

Foods which induce vomiting are water taken freely, milk, tea, coffee, soups, and all kinds of fluids, neutral, acid, and saccharine, custards, eggs, toast, and fruit. The most unstable combination of a diet is toast, eggs, and sweetened tea, things which the stomach of no gravid woman in the early months will tolerate. In the majority of instances it is, as is well known, perfectly safe to gratify the patient in her "longings," all the more so should they be for solid food.

To offer pork more than once a day is not objectionable, but it should at least be the first food taken each day until the cure is completed. The self selected regimen in one instance was boiled ham twice a day for more than two months.

The writer has used this dietetic treatment in two cases of pernicious vomiting with success, and also in obstinate vomiting of the ordinary variety, and believes it worthy of trial. It hastens the progress of the case in its development or ending, excludes by success or failure the possibility of other diseases simulating this condition or causing an error in diagnosis, and leaves the practitioner ample time to comprehend and treat the patient if a cure is not speedily obtained. On the other hand, liquid and unsystematized attempts at dieting add fuel to the trouble and prolong and aggravate the difficulty.

631 I STREET, N. W.

The Eighteenth Century Guinea Pig.—A wealthy doctor, who can help a poor man, and will not without a fee, has less sense of humanity than a poor ruffian, who kills a rich man to supply his necessities. It is something monstrous, to consider a man of a liberal education tearing out the bowels of a poor family, by taking for a visit what would keep them for a week.—*The Tatler*, October 8, 1709.

CRITICAL ANALYSIS OF 186 OPERATIONS UPON THE LIVER AND GALL PAS- SAGES, AND THE AFTER RESULTS.

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(Continued from page 1110.)

COMPLICATIONS FOLLOWING THE OPERATIONS FOR CALCULI.

Six patients who survived the operations had the following complications while in the hospital. All recovered from the complications.

1. Postoperative pneumonia following a cholecystostomy for acute empyema of the gallbladder, which contained ten calculi.

2. Pleurisy three weeks after operation, requiring aspiration forty-eight days after the same. Numerous calculi in gallbladder, cystic duct, and common ducts. Cholecystectomy, choledochotomy.

3. Left internal phlebitis came on eleven days after operation, and lasted for one month. Left hospital on forty-first day, with somewhat swollen leg. Appendectomy, the organ containing several thread worms; cholecystostomy for three calculi in gallbladder. There was no growth from culture of the gallbladder fluid.

4. Pleurisy, with effusion requiring aspiration, forty-five days after cholecystostomy for calculus in the gallbladder, culture from which gave bacillus coli communis.

5. Pneumonia, followed by pleurisy, with effusion; aspirated three times subsequent to appendectomy and cholecystostomy for calculus in gallbladder. This patient had a true recurrence of calculi (see Case XII, under secondary operation) three years and eight months after these operations. In exposing the small gallbladder, an opening was made in the very adherent colon, which opening was sutured, but this failed to hold, and there resulted a fecal fistula, which has never healed, though now but a pinhole opening.

6. One patient ran such a persistent high temperature after the operation that additional drainage was required on the twenty-second day, necessitating a counter opening from behind into Morrison's space.

From these cases, then, we see that lung complications were the most frequent, occurring in four, or four per cent. of the ninety-nine patients operated upon. Left saphenous phlebitis occurred in one, or one per cent.

PATIENTS IMPROVED.

The histories of the seven patients who were improved by the operations are as follows:

CASE I.—Mrs. M. M.; aged twenty-eight years. Operation, September 6, 1903. Gallbladder thickened, not enlarged, contained many calculi. Cholecystectomy. Cystic duct ligated. No biliary discharge from the wound after the operation. Prior to the operation had had severe colics for one year. Examination two years later, in October, 1905, showed that she was much improved; had some pain at times in the wound, but not nearly so severe as before the operation. As nearly as could be ascertained, these pains were due to adhesions in the wound. She complains of a great deal of stomach trouble, flatulency, and attacks of vomiting bitter fluid and bile.

CASE II.—Mrs. C. K.; aged fifty-seven years. Operation, February 20, 1903, for acute cholecystitis, with

several calculi in the gallbladder. Gallbladder was large and thickened. Cholecystostomy. Result in October, 1905: Has never had any attacks as severe as the original ones, but has occasional pain in the wound, due probably to adhesions; these are never severe enough to incapacitate her. One year ago had an attack of acute gastritis, which lasted for three months. Her stomach has been weak ever since the operation, and is her chief complaint.

CASE III.—Mrs. J.; aged fifty-eight years. Five months prior to admission, biliary colic, with chills, fever, and jaundice. This repeated a number of times. Operation, December 23, 1902. Gallbladder, atrophied and thickened, contained large number of calculi. Cholecystostomy. Result: Three months after leaving the hospital, she had an attack of the same biliary colic as before, with jaundice. Secondary operation was decided upon, when suddenly all the symptoms disappeared, following upon the passage of a calculus in a stool. She has been in perfect health ever since in every way.

CASE IV.—Mrs. M. K.; aged forty-six years. Operation, December, 1902. Three months prior she had an attack of typical biliary colic, with jaundice. Numerous attacks since. Gallbladder found atrophied, containing many calculi. Cholecystostomy. Result: She has attacks occasionally of pain in the wound, which would seem to be due to filling up of the gallbladder with secretion, and its retention for some time. The symptoms are relieved by taking olive oil.

CASE V.—Mrs. C. M.; aged thirty years. Operation, August, 1901. Cholecystostomy for eighteen calculi in the gallbladder. Result: Has had no attacks like the original ones, but she is miserable with pain in the wound and across the kidneys. She has a slight rupture in the scar.

CASE VI.—Mrs. J. R.; aged thirty-three years. Prior to admission had had for twelve years from two to eight attacks of biliary colic. Operation, September 24, 1898. One hundred calculi removed from the gallbladder. Cholecystostomy. Several calculi were passed from the wound after the operation. Result: She has had several attacks of miniature biliary colic, and also some pain, which seem to be due to adhesions. She has also considerable gastric disturbance. During the attacks of pain she feels a weight in the side under the wound. On the whole, she thinks the operation did her a great deal of good.

CASE VII.—Mrs. E. N.; aged thirty-four years. Operation, January, 1898. Cholecystostomy. One large calculus found in the gallbladder. Result: She has had more or less stomach disturbance ever since the operation; also several attacks of miniature colic. Her side is somewhat tender. Pains due to adhesions also present. Is much improved, on the whole.

Summing up these cases of improvement so far as is possible, we may say that the symptoms persisting were:

1. Adhesion pains in four patients.
2. Periodic filling up of the gallbladder in two patients.
3. Miniature colics in two patients.
4. Stomach disturbances in four patients.
5. Stones left behind at the original operation in one patient.

Only one of these patients had had a cholecystectomy performed. It is an open question how much better these patients would have been had a primary cholecystectomy been done, but it is a conservative estimate to say that perhaps half of them might have been cured if this had been performed.

PATIENTS UNIMPROVED.

The histories of four patients who were not improved by the operations for biliary calculi are as follows. To these must be added the twelve secondary operations.

CASE I.—Mrs. S. D.; aged forty-seven years. Operation, June 14, 1900. This patient had had her first attack of colic one year prior to admission. Three attacks since. With each attack there was jaundice. Patient very sick at the time of the operation, when an abscess was opened about the gallbladder, which itself was shrunken and buried in adhesions, and contained thirty-nine calculi. Cholecystostomy. Culture of fluid from the gallbladder showed streptococci. Result in October, 1905: The patient was not benefited by the operation, since she has had a number of serious attacks of what appear to be inflammation of the gallbladder. The last attack was six months ago. She has passed at various times, by rectum, a number of calculi.

The three following cases illustrate biliary calculi conditions complicated by general enteroptosis, the symptoms from which vitiate the good results of the operations:

CASE II.—Mrs. L. A. R. Operation, September, 1903. During previous year had about twenty attacks of pain over the gallbladder, not radiating, coming most frequently at night. Never jaundiced. At the operation the gallbladder was much enlarged, and very full of stones. It was removed. Cystic duct ligated. There was no biliary discharge at any time subsequent to the operation. Result in October, 1905: She does not consider herself benefited at all by the operation. The pain at night seems to be the same. She cannot walk much, on account of backache and dull pains in the region of the wound. Stomach seemed considerably disturbed at times. Very nervous. Examination of the abdomen shows no hernia in the scar, which is slightly tender to pressure. The abdominal walls are very lax, and the intestines have prolapsed to the lower portions of the abdomen, which are very prominent. The liver is also prolapsed. Undoubtedly the liver, in its prolapse, falls upon the adhesions about the gallbladder. The patient was ordered to wear a general enteroptosis belt.

CASE III.—Mrs. G. R.; aged thirty-three years. Operation, April, 1904. For the past three months has had pains at times under the right ribs, at other times over the vermiform appendix. Never jaundiced. Diagnosis was doubtful between appendicitis and biliary calculi. Incision first made over appendix, which was removed, and found to contain several thread worms. The gallbladder was felt to be enlarged. It contained three calculi. Cholecystostomy. Eleven days after the operation she developed a left internal saphenous phlebitis, which resolved in one month's time. Result in October, 1905: Three months after the first operation she had a ventrosuspension operation at the Presbyterian Hospital for retroversion. At the present time she does not consider herself benefited at all by the previous operations. She has the same pains, which are all located in the right side. Cannot walk, on account of backache. Very nervous, and has poor appetite. She rarely eats any solid food. Never jaundiced. Examination shows emaciated woman, with very lax abdominal walls. No hernia. She has a movable right kidney and marked general enteroptosis. All her symptoms undoubtedly come from the general enteroptosis, and the question is whether the gallstones had ever caused her any symptoms. The patient was advised to wear a general enteroptosis belt, which she had never done.

CASE IV.—Mrs. M. T.; aged sixty years. Operation

in May, 1904. For the past ten years she had had attacks of right sided abdominal pains, which at times were very severe, particularly in the right shoulder. One year prior to the operation in the Presbyterian Hospital she had a cholecystostomy performed in Albany, and a calculus was removed. Since this operation numerous biliary colics. At the second operation, in this hospital, one large calculus was found in the gallbladder, which was much thickened. Cholecystectomy. Result in October, 1905: Patient says that she has received no benefit from the prior operations. She has dull, aching pains in the wounds, worse in wet weather and on walking or climbing stairs. They are not as severe as the pains previous to the operations, nor paroxysmal. She has backache, nervous flashes of heat and cold, nausea, no vomiting, flatulency. Examination shows a thin, sparse woman, with much relaxed abdominal walls, and general enteroptosis. The liver is considerably prolapsed. Uterus is retroverted. She has a small hernia in the lower scar, which was made at the first operation, and which is over the appendix region. Her symptoms are due to the general falling of the abdominal viscera. The liver probably pulls directly, in its prolapse, on the adhesions. She was ordered to wear an enteroptosis belt.

Summing up the results of these unimproved cases, we may say that in one patient we might have achieved a better result had the gallbladder been removed at the time of the first operation. Removal of the gallbladder at the present time would give this patient fair prospect of a permanent cure. The three remaining patients presented a complication, general enteroptosis, which could not be relieved by any operation on the biliary passages. Appropriate supplemental treatment, however, namely, the wearing of some appliance to support the viscera, which was neglected, might have afforded these patients much benefit.

ULTIMATE RESULTS OF THE OPERATIONS FOR
BILIARY CALCULI.

It is a difficult matter to satisfactorily classify the patients, so far as the after results are concerned, because opinions may vary as to what would constitute a cure, which in itself is a relative term. In the great majority of patients operated upon for biliary calculi we may expect considerable discomfort for six months after the operations, due to adhesions about the operative area, as well as more or less persistence of gastric, intestinal, and nervous symptoms; so that it would be well to exclude all cases who had had operations within a year, in order to get a true opinion of the good or bad effects of the procedures so far as a permanent cure is concerned. We cannot call a patient uncured because there may be present some occasional attacks of stomach difficulty, nor because there may be at times some slight sticking pains about the wound, due to persisting adhesions. A patient is cured when there is no recurrence of disabling attacks of pain, i. e., biliary colic, when stomach digestion is adequate, and when there are no attacks of inflammation in the biliary passages. All the patients were operated upon prior to January 1, 1905, or ten months before the statistics in this article were written.

Of the ninety-nine patients who were operated upon, eighty-six survived the immediate ef-

fects of such operations. Of these eighty-six patients, sixty-nine have been traced to the present time. Of this number, forty-five were cured in the sense of the definition above, or sixty-five per cent. The lengths of time which had elapsed between the operations and the present time—November, 1905—are as follows:

| | |
|------------------------------|-----------|
| Ten months..... | 1 case. |
| Between 1 and 2 years..... | 9 cases. |
| Between 2 and 3 years..... | 10 cases. |
| Between 3 and 4 years..... | 8 cases. |
| Between 4 and 5 years..... | 1 case. |
| Between 5 and 6 years..... | 4 cases. |
| Between 6 and 7 years..... | 3 cases. |
| Between 7 and 8 years..... | 3 cases. |
| Between 8 and 9 years..... | 1 case. |
| Between 9 and 10 years..... | 2 cases. |
| Between 10 and 11 years..... | 2 cases. |
| Between 11 and 12 years..... | 1 case. |
| Total..... | 45 cases. |

Seven of the sixty-nine patients are classed as improved, or ten per cent. Under this heading are included all patients who suffer from symptoms which point to some lesion in the gallbladder region, but who yet are distinctly better as a result of the operations. The details of these patients have already been given.

Sixteen patients, or twenty-three per cent., consider themselves unimproved, for reasons which have been given above.

Twelve patients, or twelve per cent. of the ninety-nine patients primarily operated upon, required secondary operations. Their histories have been already narrated and discussed.

Six patients developed subsequent herniæ, as a result of the operations. Three of these were after primary operations, or four per cent., and three were after secondary ones, or thirty per cent. of the ten patients who survived the second operations.

Of the sixty-nine patients only one may be said to have had a recurrence of calculi, or one per cent. The details of this patient's history are given in Case XII of the secondary operations. It seems more probable that there was a true reformation of calculi in this patient, rather than an overlooking of them at the time of the primary operation.

Seven of the sixty-nine patients, or ten per cent., may be said with certainty to have had calculi overlooked at the time of the primary operations. Five of the seven, or seventy-one per cent., required relief by subsequent operations (see under the heading of Secondary Operations). Of the two unoperated patients, one had at the primary operation a cholecystostomy. Three months after this operation, in December, 1902, she had an attack of severe colic, with jaundice. All the symptoms disappeared after the passage in the fæces of a calculus, and she has been perfectly well ever since. The second patient had a primary cholecystostomy in June, 1900. Since then she has had a number of attacks of severe inflammations of the gallbladder, and she has passed calculi in large numbers at various times. She refuses a second operation. The last attack was one month ago.

CHOLECYSTOSTOMY VERSUS CHOLECYSTECTOMY.

The numerous questions involving the diagnosis of biliary calculi, as well as the indications for operation, are fairly well understood and more

or less settled. The same, however, cannot be said as to the operative procedure best suited to individual cases. The most important question agitating the surgical world is when the gallbladder should be removed, or when it should be merely drained by an opening in it. Removal of the mucous membrane of the gallbladder has been proved to be inefficient, as it regenerates afterward (e. g., Case II, under the heading of Secondary Operations). Surgeons differ widely upon this most important question, which can only be definitely settled by comparing the results obtained in a large number of cases operated upon by the two methods, not only as to the immediate mortality, but also as to the permanence of the cures.

A few conclusions will be drawn from data obtained from the present series of cases, lack of space precluding an extended discussion of this most interesting and important topic. It must be understood, however, that no sweeping generalizations can be made based on these statistics, because the number of cases is too small to warrant any such universal application.

By referring to Tables II and III, at the beginning of this article, we obtain the number of patients operated on by the two methods, excluding complicated cases, or those where the calculi were in the deeper ducts, which obviously would not furnish fair standards for comparison of the advantages of either method over the other.

| | Cholecystostomy. | Cholecystectomy. |
|--|---------------------|---------------------|
| Calculi in gallbladder alone..... | 38 | 14 |
| Calculi in cystic duct alone..... | 3 | 5 |
| Calculi in gallbladder and cystic duct | 8 | 7 |
| Totals..... | 49 | 26 |
| Deaths | 3, or 6.1 per cent. | 2, or 7.6 per cent. |

From this we see, then, that cholecystostomy has a slightly less immediate operative mortality—about 1.5 per cent.—than cholecystectomy. Are the after results enough better in the latter operation to warrant our subjecting the patients to the increased risk incident to this operation?

| | Cholecystostomy. | Cholecystectomy. |
|---------------------------|---------------------|---------------------|
| Cured | 25, or 58 per cent. | 18, or 78 per cent. |
| Unimproved | 6, or 14 per cent. | 1, or 4 per cent. |
| Not improved | 12, or 28 per cent. | 4, or 17 per cent. |
| Secondary operations..... | 9, or 20 per cent. | 1, or 4 per cent. |

In making this table we have included in the not improved cases those who required secondary operations. From a comparison of the results in each operation, we see that with cholecystectomy there were twenty per cent. more cures, and consequently ten per cent. fewer merely improved patients, eleven per cent. fewer unimproved, and sixteen per cent. fewer secondary operations than with cholecystostomy. Particularly is the difference shown in the number of secondary operations required in the two cases, nine being necessary after cholecystostomy and only one after cholecystectomy.

In these limited cases, then, we are forced to the conclusion that cholecystectomy has proved itself far superior to cholecystostomy in every respect save that of a slightly increased mortality in the former operation over the latter. The superior after results in cholecystectomy would warrant the conclusion that one is fully justified in taking this slightly greater risk of the operation itself. Cholecystectomy bids fair to become

the normal procedure in operating for biliary calculi.

CHOLECYSTITIS WITHOUT THE PRESENCE OF CALCULI.

There were fourteen of these patients operated upon, three of whom died as a result of the operations—a mortality of twenty-one per cent. All were adults, nine being men and five women. Jaundice, or a history of jaundice, was present in ten and absent in four. Pain was a marked symptom in all, being a dull ache in four, while ten had attacks of typical biliary colic. The leucocyte count, in the individual cases in which it was taken, being respectively 9,400, 15,500, 6,000, 17,200, 14,000, 8,200, 18,000, 7,000, 8,000. In all of the patients there was more or less rigidity over the gallbladder. In only three of the patients was the gallbladder felt as a tender mass. Cholecystostomy was performed in thirteen patients, and cholecystectomy in one. At the operations, ten of the cases were found to have dilated gallbladders, and four were shrunken and atrophied. A diagnosis from cholecystitis, with calculi, was impossible in the great majority of the cases.

Results as to Permanency of the Cures.—Seven of the ten patients who survived the operations were able to be traced. They were all perfectly cured, and by this is meant a total and absolute cure in every respect. None of them complained of stomach disturbances, which seem so prone to persist after calculus operations. None of them complained of adhesion pains after the operations, which are so liable to cause discomfort after calculus operations. Possibly the differences in these respects may be accounted for by the fact that the symptoms in acute inflammations of the gallbladder, as instanced in these cases, were in the average case so severe as to force the patients to an earlier operation than was the case with the average calculus case, in which the patients managed to worry along without an operation for a longer period of time. In addition, in cholecystitis without calculi there is not as much damage to the gallbladder as when calculi are present. The average length of time in these cholecystitis cases without calculi, between the onset of the symptoms and operation, was about seven months.

The individual lengths of time of the duration of the symptoms before operation in these cholecystitis cases were as follows:

| | | |
|-----------|----------|-----------------------------|
| 4 days | 1 case. | |
| 1 month | 3 cases. | |
| 1½ months | 2 cases. | One of these patients died. |
| 2 months | 1 case. | |
| 3 months | 1 case. | |
| 7 months | 1 case. | |
| 12 months | 4 cases. | Two of these patients died. |
| 24 months | 1 case. | |

The lengths of time which had elapsed after the operations, between them and the date of examination in October, 1905, was:

| | |
|----------|----------|
| 1 year | 3 cases. |
| 2 years | 2 cases. |
| 3½ years | 1 case. |
| 5 years | 1 case. |

In no case had a hernia developed, neither was there a persistent sinus in any case after the primary operation. No case required for any reason a secondary operation.

Cultures taken from two of the cases showed colon bacilli. A third case showed no pathogenic organisms, only fungi present.

The histories of the three patients who died are as follows:

CASE I.—R. B. W.; aged fifty-eight years; physician. Operation, April 25, 1896. Six weeks ago had a chill and some fever. Thought it grippe. Nausea, but no pain. Two weeks ago seized with dull, aching pain over the gallbladder, followed by jaundice, which has persisted and become intense. On admission, temperature, 102°; pulse, 105. Liver area intensely tender, and a mass present in region of the gallbladder. Abscess found in the abdominal wall. Gallbladder adherent to the parietal peritonæum; much thickened, dilated, and full of foul pus. No calculi present. Cholecystostomy. Death on the second day. Sepsis. Peritonitis.

CASE II.—W. K.; male; aged forty-three years. Operation, February 11, 1893. More or less pain for past year in the right hypochondrium. Six weeks ago severe attack of pain, with jaundice and fever. Liver was enlarged and very tender. In very bad condition. Diagnosis, calculus in the common duct. Gallbladder was found greatly distended, with its interior walls sloughing. No calculi present. Cholecystostomy. Died on the seventh day.

CASE III.—B. M.; male; aged seventy-four years. Operation, April 12, 1902. One year ago colic in epigastrium, with chills, fever, vomiting, and tenderness over the gallbladder. In bed one week. Six months later less severe attack. Present attack began two days prior to admission when the temperature was 99°. Deeply jaundiced. Leucocytes, 14,000. Gallbladder found thick and distended. No calculi present. Cholecystostomy. Died on third day of peritonitis.

CIRRHOSIS OF THE LIVER, WITH ASCITES.

In view of the discussion which is now being carried on as to the advisability of the operation of omental suture for these cases, the following statistics will be interesting. There have been twelve of these operations. Two things strike us at once, on considering them, namely, the high mortality of the operation and the splendid results obtained ultimately in the way of a cure in several cases.

Seven of the twelve died as a direct result of the operation, or a mortality of 58.3 per cent. The varieties of the cirrhosis were as follows, being judged solely by the size of the liver at the time of the operation. No sections of the liver were taken for microscopical examination.

Atrophic cirrhosis, 6 patients, with 2 recoveries.
Hypertrophic cirrhosis, 6 patients, with 3 recoveries.

The presence of jaundice prior to the operation is of importance. None of the five patients who recovered from the operation ever had been jaundiced. Of the seven who died, four either were jaundiced at the time of the operation, or gave a history of the presence of jaundice. There were seven men and five women.

Of the five who recovered the abdominal enlargement had existed for thirteen months, three months, four months, two years, and seven weeks, respectively; in the seven who died, four weeks, eight weeks, five months, fifteen months, three months, eight months, and three weeks. From these figures we may infer that the length of time the ascites has existed is of not so great

importance from a prognostic standpoint as the general condition of the patient, whether sufficient liver cells are properly active to carry on the bodily functions. If the liver cells are markedly degenerated, as evidenced by pronounced jaundice, malnutrition, etc., the dangers of the operation are much magnified, and the expectation of prolonging life to any degree, even if the ascites be cured by the operation, are necessarily so slight as to contraindicate any such dangerous procedure.

A number of the patients were operated upon in the experimental stage when the indications for the operation were not understood. A number of them were not at all suitable for the operation, and would not now be operated upon at all, hence the high mortality. All of the patients had been tapped a number of times prior to the operation, followed by prompt reaccumulation of the fluid.

In these twelve cases, then, we find that:

1. The mortality was 58.3 per cent.
2. Of the survivors, one patient, or twenty per cent., was not at all improved.
3. Cured four, or eighty per cent. of the survivors, or thirty-three per cent. of all those operated upon. The duration of the cures was as follows: Six years, sixteen months, two years, four months, and six months.

The details of the five patients who recovered are as follows:

CASE I.—J. C.; male; aged forty-three years; single. Moderate alcoholic habit. Well until thirteen months ago, when he began to have loss of appetite, vomiting, and swelling of the abdomen. Never any blood in vomitus and stools. Never jaundiced. Abdominal paracentesis eleven times, this being required at the time of the operation every ten days. Operation on September 2, 1899. Gas and ether. One incision above navel, and a second small one above the pubis. Abdomen sponged dry of fluid, which was present in large amounts. Liver was typically hobnailed, and its edge was two inches above the costal margin. The spleen was twice its normal size, and the omentum was small and shrivelled and had many large veins in it. Surfaces of the liver and the spleen were rubbed with a sponge, and also the peritonæum opposite to these surfaces. The omentum was sewn transversely across the abdomen to the parietal peritonæum. Complete closure of the upper wound. Glass drainage tube inserted into the lower wound. Convalescence uninterrupted. Glass drain left in the lower wound as long as there was any flow of ascitic fluid. Result six years after the operation: The man pursues his work as a day laborer without any difficulty. His general nutrition is excellent, and his appetite and digestion are perfect. There is no reaccumulation of the ascites.

CASE II.—J. G.; male; aged forty-five years. Enormous whiskey drinker. Seven weeks ago his legs and abdomen began to swell. Never any jaundice, vomiting, diarrhoea, hæmorrhages, cough, or dyspnœa. Requires tapping every eight or ten days. Liver large. Many dilated veins in the abdominal wall. Circumference of abdomen, 44 inches. Operation on June 23, 1904. Procedures exactly as in the preceding case. Liver large, surface nodular and hard. Omentum was small. Drainage in the lower wound. After the operation he had considerable diarrhoea, and several attacks of profuse epistaxis, requiring nasal plugging. Result sixteen months after operation: The patient is apparently cured. His digestion is faultless, as he can eat anything without distress. He has gained a great

deal of weight. There is no recurrence of the ascites. The liver edge cannot be felt.

CASE III.—J. S.; female; aged forty-eight years; twelve children. Very moderate alcoholic habit. Three months ago lost appetite, and the abdomen began to swell. Never jaundiced. Numerous tapings. Patient much emaciated. Operation on September 24, 1900. Procedures as above. Liver edge four inches below the costal arch. Result: She was free from fluid in the abdomen for only two months, when she returned to the hospital with the abdomen distressingly filled with fluid, requiring tapping frequently. She died six months later.

Realizing the high mortality attending this operation, a less extensive procedure was attempted in the following two cases with the view of minimizing the shock attending the regular operative methods as hitherto carried out. It consisted in making an incision below the navel, followed by thorough drying of the abdomen by sponges, particular attention being paid to the removal of all fluid from the pelvis. The omentum was then brought down as far as possible and smoothed out under the abdominal wound, to which it was hoped that it would adhere. This was followed by the insertion of a cigarette drain into the pelvis through the lower angle of the wound.

CASE IV.—A. H.; male; aged fifty-five years. Moderate alcoholic habit always. Two years ago began to have loss of appetite and more or less malaise. Shortly afterward his abdomen and legs began to swell. Bowels sometimes loose; never contained blood. Never jaundiced. Never vomited. First abdominal paracentesis fifteen months ago, repeated since at intervals of five weeks to three months. Almost all his symptoms are due to the pressure of the fluid, and he feels very well after its removal. Operation, October 16, 1905, performed as above. After the operation the fluid drained from the wound for sixteen days, when it ceased. It, however, was present in the abdomen to some extent on the left lower side, where a collection had evidently become walled off by adhesions. Marked improvement in the appetite, which became ravenous. All food well digested and without discomfort. Rapid increase in the weight. The sacculated fluid soon began to disappear, and forty-four days after the operation it shows no sign of reaccumulating. Time alone will show the permanency of the cure.¹ It was well demonstrated that adhesions had formed in the abdomen, and to these we may attribute the good result.

CASE V.—E. H.; female; aged fifty years. Operation, July, 1903. For one year had had dyspepsia, with slight vomiting. Moderately alcoholic only. Never jaundiced. More or less dyspnœa. Abdomen large for one year; enormous at the time of the operation, which was performed as above, two gallons of fluid being evacuated. The drain was permanently removed on the seventh day. Result in December, 1905, two years and five months after the operation, leaves nothing to be desired. Her appetite is ravenous. Eats everything, except pork, without discomfort, unless she eats too great a quantity, when she has a sense of weight. Attributes this discomfort to lack of mastication due to poor teeth. Never nauseated, never vomits. Very constipated. Has gained a great deal of flesh. Left pleurisy, with effusion, one year after operation, requiring three tapings, with prompt cure. No return of ascites and no œdema of legs. In splendid general health.

While a general discussion of the subject of

¹ In April, 1906, six months after the operation, the patient is perfectly well. There is no sign of recurrence of the ascites.

cirrhosis is not within the province of this paper, still the opportunity cannot be passed over without a few remarks pertaining to the results of others, as well as to the question of the contraindications to the operation. The most extensive article on the subject is found in the *Klinisches Jahrbuch*, xiv, Heft 3, 1905, by Bunge, who reports fourteen cases of his own. Of these there was no operative mortality, while four were permanently cured, three were improved, and seven received no benefit. He has collected 274 additional cases, obtained from all the literature available. In these he found that there was an immediate operative mortality of 3.6 per cent.; a permanent cure was obtained in thirty per cent.; improvement in fourteen per cent.; not influenced, fifty-six per cent.

Talma, who originated the operation, gives the following as contraindications to the operation: "Marked icterus (which indicates serious disturbance of the liver cells themselves, usually beyond the power of regeneration), urobilinuria, acholia and hypocholia of the fæces, xanthoma, and other pigmentations of the skin; additional contraindications are heart and kidney affections." He also says that the operation should not be delayed longer than at the time of the second puncture. Bunge says that hæmorrhage from the alimentary tract, due with certainty to cirrhosis of the liver, is a strict indication to perform Talma's operation without any delay, so soon as the patient's condition will permit it.

Some of the operative questions for discussion are, whether the omentum shall be fixed intraperitoneally or extraperitoneally, or whether it had better be fixed at all; shall the surfaces of the liver and spleen be abraded by rubbing or not; or shall splenopexy and hepatopexy be performed; should we satisfy ourselves with omental fixation alone; should we drain, or not drain, the abdomen? Many operators maintain that drainage predisposes to the development of peritonitis, hence had better be omitted entirely. If not drained, the abdomen must be kept free from accumulation of fluid by postoperative paracentesis, repeated as often as necessary.

No answers to these questions can as yet be satisfactorily given. Operative experience alone can solve them, as has been the case with so many of our operative procedures; witness appendicitis, cholelithiasis, hypertrophied prostate, etc. In all of these conditions the operations were first performed only when the patients were in a desperate condition, as a last despairing hope. Earlier operations in all these conditions vastly improved the results, as well as the development of a better technique with increased experience. Analogously we may reason that the surgeon should insist on operation in ascites from liver cirrhosis being performed on the first appearance of the ascites, only in patients who have fairly healthy hearts and kidneys, and where there is no marked jaundice. Only in these conditions have we a fair test of the operation, which in many cases has proved of great value.

Most writers, following the description given in Sappey's *Anatomy*, describe the normal communication between the portal and venous systems

as follows: One set of veins running in the folds of the hepatic ligaments connects the portal trunk with the phrenic veins and azygos major; another set runs in the round ligament and communicates with the epigastric veins, and with the intercostal and other veins in the abdominal wall; the coronary veins through the œsophageal plexus communicate with both azygos veins, and the inferior mesenteric vein through the middle and inferior hæmorrhoidal plexus communicates with the internal iliac veins. Talma has recorded three cases in which this collateral circulation was easily demonstrated. All three patients had at one time suffered from ascites, which, however, disappeared before death. Each of them showed at the autopsy a well established collateral circulation, in one case the vein in the round ligament being as large as a finger. This collateral circulation may be helped by adhesions formed between the abdominal wall and the viscera, such as the intestines, liver, and spleen; and in cases in which ascites has at last disappeared after frequent tapplings, these tapplings may very probably have brought about such adhesions.

MALIGNANT GROWTHS OF THE LIVER AND GALLBLADDER.

There were twenty-five of these patients operated upon. Two of these were diagnosed at the operation as sarcoma of the liver. There were but two cases considered to be primary carcinoma of the gallbladder, and one case only had calculi present as a complication. In eleven of the patients the gallbladder was not involved in the growth. In only three of the patients was there ascitic fluid present in the abdomen. In seven of the cases erroneous diagnoses before the operation were made as follows: Cancer of the colon, biliary calculus, cancer of the stomach twice, abscess of the liver three times.

Ten of the patients were men and fifteen were women. The ages were as follows:

| | |
|------------------------------|-------------|
| Between 25 and 30 years..... | 1 patient. |
| Between 30 and 35 years..... | 2 patients. |
| Between 35 and 40 years..... | 5 patients. |
| Between 40 and 50 years..... | 4 patients. |
| Between 50 and 60 years..... | 9 patients. |
| Between 60 and 70 years..... | 3 patients. |

The first symptom complained of was:

| | |
|-----------------------|--------------|
| Jaundice | 1 patient. |
| Tumor | 1 patient. |
| Pain | 16 patients. |
| General debility..... | 5 patients. |
| Gastric symptoms..... | 2 patients. |

Prior to operation, eight patients, or thirty-two per cent., gave a history of jaundice. In only one of the patients was there a history that the jaundice had ever disappeared after it had once made its appearance. It was usually progressive in intensity. In no case was there an antecedent history of a distinct trauma.

Localized pain was present in all the patients but three. The pain was paroxysmal in eleven and continuous in eleven. It was the first symptom complained of in sixteen patients.

Symptoms referable to the stomach were present in sixteen patients. Only four patients gave an alcoholic history.

A distinct tumor was palpable in eighteen patients, and it was absent in seven.

In all but two patients the operation was pure-

ly exploratory, nothing being accomplished in the way of radical measures. These two patients had cholecystostomies performed, one for calculi and the other for distention of the gallbladder. The mortality of the twenty-five operations was ten, or forty per cent. This illustrates the fact that patients with changes in the liver of almost any nature—abscess, cirrhosis, cancer, etc.—bear operations very poorly, due probably to the fact that the weakened liver cells are unable to bear the additional strain of the anæsthetic and the nervous shock.

An interesting fact is shown in eight patients, or thirty-two per cent., who all ran some degrees of temperature before the operations. This often leads to the erroneous diagnosis of abscess of the liver. The temperature in these cases of malignant disease rarely went higher than 101° . Operation proved that no abscess was present in any of the cases. This temperature is difficult to explain. It may be due to a toxæmia, or to some breaking down of the tumor tissue.

The blood counts are also worthy of study. In the two cases of sarcoma there were fever, increased leucocytosis, the polymorphonuclear leucocytes in the one case in which it was taken being eighty-five per cent. The blood counts in the individual cases are as follows:

1. Sarcoma of the liver. Temperature present. Leucocytes on five different days before operation varied between 20,000 and 26,000; polymorphonuclears, eighty-five per cent.

2. Enormous sarcoma of the liver, reaching to the iliac crest. Ran a temperature for four days prior to the operation of about 102° . On each of the three days preceding the operation the counts were, respectively, 18,500, 19,000, and 18,000.

3. Cancer of the liver and gallbladder. Ran a temperature on the two days before the operation of 102° . Died two months after the operation of intestinal obstruction. Leucocytosis, 20,000.

4. Cancer of the liver. Temperature normal for eighteen days prior to the operation. Leucocytes, 14,000; polymorphonuclears, seventy per cent.

5. Cancer of the liver. Was thought to be abscess. Ran a temperature for three weeks before the operation of between 102° and 103.5° . On admission, leucocytes, 11,500, and two weeks later, 9,000.

6. Cancer of the liver and gallbladder. Temperature, 100.5° . Leucocytes, 8,600; polymorphonuclears, eighty-two per cent.; no eosinophilia.

7. Numerous cancerous nodules on the liver. Ascites present. Leucocytes, 8,600.

8. Large cancer of the liver. Temperature for two days preceding the operation, 101° . Leucocytes, 9,000.

9. Cancer of the liver. Temperature normal. Polymorphonuclears, 58.4 per cent.; large mononuclears, 13.2 per cent.; lymphocytes, 23.2 per cent.; basophiles, two per cent.; eosinophiles, four per cent.

10. Cancer of the liver and gallbladder. Temperature for three days prior to the operation of about 100.5° . Leucocytes, 7,700; polymorphonu-

clears, 73.2 per cent.; large mononuclears, 8.4 per cent.; lymphocytes, eighteen per cent.; myelocytes, four per cent.

Summing up the blood counts, we find the following in the individual cases:

Leucocytes, 20,000; polymorphonuclears, 85 per cent.
 Leucocytes, 18,000; polymorphonuclears, not counted.
 Leucocytes, 20,000; polymorphonuclears, not counted.
 Leucocytes, 14,000; polymorphonuclears, 70 per cent.
 Leucocytes, 11,500; polymorphonuclears, not counted.
 Leucocytes, 8,600; polymorphonuclears, 82 per cent.
 Leucocytes, 8,500; polymorphonuclears, not counted.
 Leucocytes, 9,000; polymorphonuclears, not counted.
 Leucocytes, not counted; polymorphonuclears, 58 per cent.
 Leucocytes, 7,700; polymorphonuclears, 73 per cent.

The fallacy of attempting to make a differential diagnosis of cancer of the liver from abscess of the liver by means of the blood count is here clearly shown. This point is still further brought out in the cases of abscess of the liver, which see later.

(To be concluded.)

ABDOMINAL HYSTERECTOMY FOR FIBROID TUMOR OF THE UTERUS COMPLICATED WITH PREGNANCY AND PROLONGED RETENTION OF A FŒTUS AND PLACENTA.*

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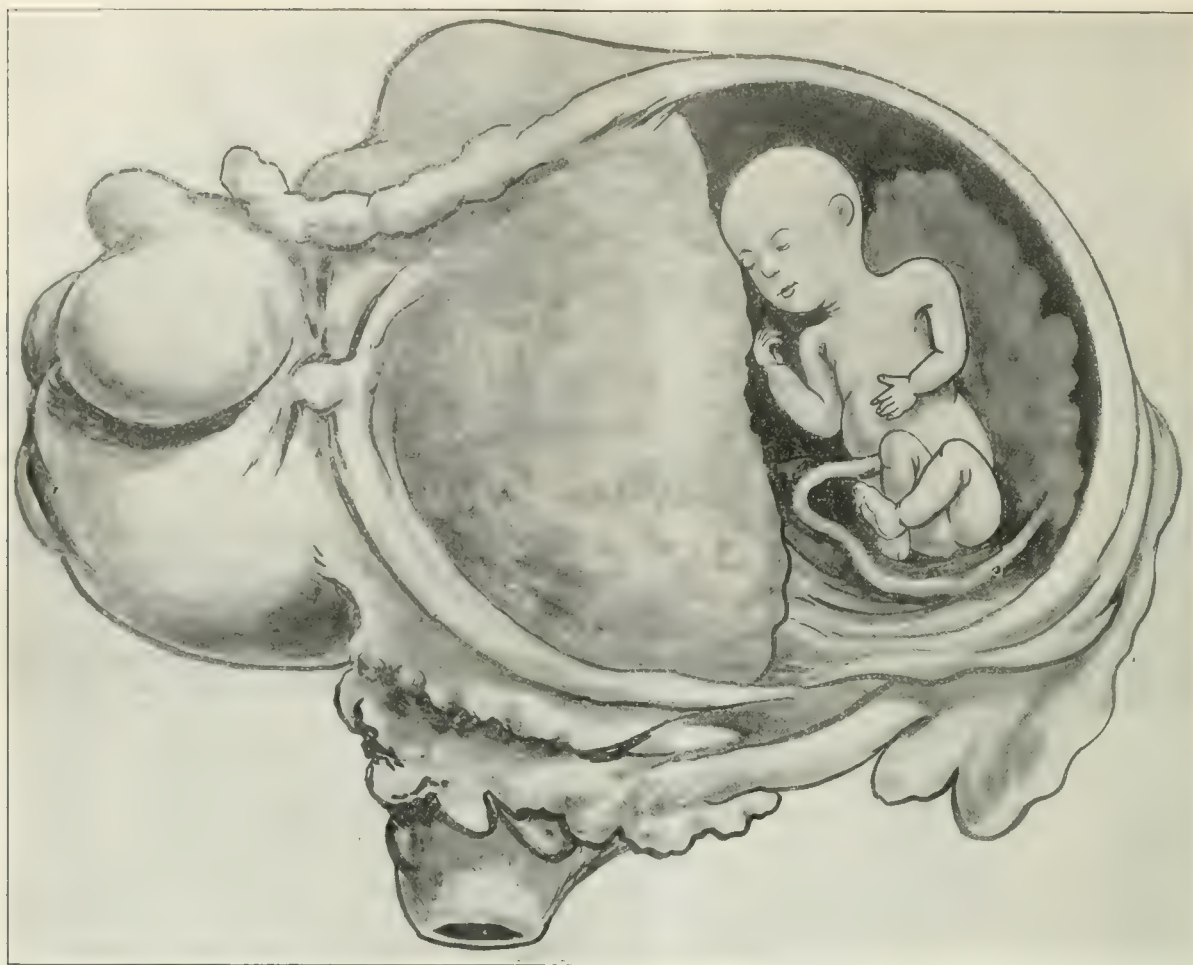
The history of the case is as follows:

Mrs. R., age thirty-one, married, one child now three years old; one miscarriage at three months, one and one half years ago. At that time I noticed a small fibroid in the posterior wall of the uterus, and learned that her menstrual periods had been more profuse than usual for the past year. I curetted the uterine cavity. Six months afterwards I examined her, and found the fibroid had increased markedly in size, and she had been losing considerable blood at each menstrual period which often occurred every three weeks. When I examined her in March, 1905, she had not menstruated since the first of January, had morning sickness, and other symptoms of pregnancy, and I told her, there was no doubt in my mind but that she was pregnant. The first of April she flowed profusely for more than a week, and as no membranes or fœtus appeared she was confident of not being pregnant, and she and her husband rather intimated that I was not very good in diagnosing pregnancy. Since then she menstruated regularly, each period being profuse and attended with pain. Patient was a slight, delicate woman, and the profuse flowing and pain told greatly on her health and strength, and she also noticed that the tumor had been increasing in size.

She consented to an operation, and on January 8, 1906, I removed the growth by an abdominal hysterectomy after the Dudley method, leaving one half inch of the cervix and uniting the stump flaps in an anteroposterior direction, closing the peritonæum over it and uniting the cut ends of the broad ligaments in the same anteroposterior direction by end to end approximation, thus making the ligatures and sutures all extra peritoneal. She made an uneventful recovery, the incision healing by first intention, and left the hospital for her home three weeks after the operation.

Upon opening the uterus after its removal, a fœtus

* From a paper read at a meeting of the Gynecological Section of the Rochester Academy of Medicine, February 28, 1906.



and placenta evidently of three months' development was found in the left side of the uterine cavity; they were in a good state of preservation and there was no odor; the uterine cavity below them had been shut off by the encroachment of the fibroid and the same pressure had probably caused the death of the fetus.

The case is interesting from the fact that a dead fetus and placenta could remain in the uterine cavity for nine months and yet not decompose or cause serious symptoms, although the nausea and distress in her stomach was persistent during all of this time, and in fact became more and more troublesome. It was one of the chief reasons that she consented to the operation, thinking it might relieve these symptoms, which it has done, as she has no trouble from that source now.

274 ALEXANDER STREET.

INTERSCAPULOTHORACIC AMPUTATION FOR SARCOMA OF THE SCAPULA.

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Although interscapulothoracic amputation is not a very unusual operation, the following case

seems worth reporting, because of several points of interest. A review of the literature of cases where the diagnosis has been verified microscopically, shows the record of only three cases where the operation has been performed for giant cell sarcoma involving the scapula alone:

CASE.—The patient, thirty-seven years old, a Scotchman by birth, a miner by occupation, entered Bellevue Hospital on September 19, 1905. His family and previous history were negative. Nine months before admission his left shoulder became stiff, especially in the morning, but after using the arm the stiffness would improve. Three months later he began to have pain of a boring, darting character, running down the left arm, worse at night and most marked in the bend of the elbow. The pain, stiffness, and weakness gradually became worse, so that three months before admission he was unable to raise the arm above his head. About the same time he noticed that the shoulder was becoming larger. He was unable to sleep or eat because of the pain, and lost thirty-five pounds in weight. He thought that he had been feverish and had a cough with considerable expectoration for some time.

Examination showed a man of large frame, emaciated, his face showing evidence of suffering (see photograph). The left arm was supported in a position of abduction, adduction being prevented by a mass, the size of a large orange, which could be felt in the axilla and beneath the pectoralis major and minor muscles. It was apparently adherent to the anterior surface of the scapula. The mass was tense, not hard or fluctuating, and only slightly tender. Motion of the shoulder joint was limited and caused considerable pain. A

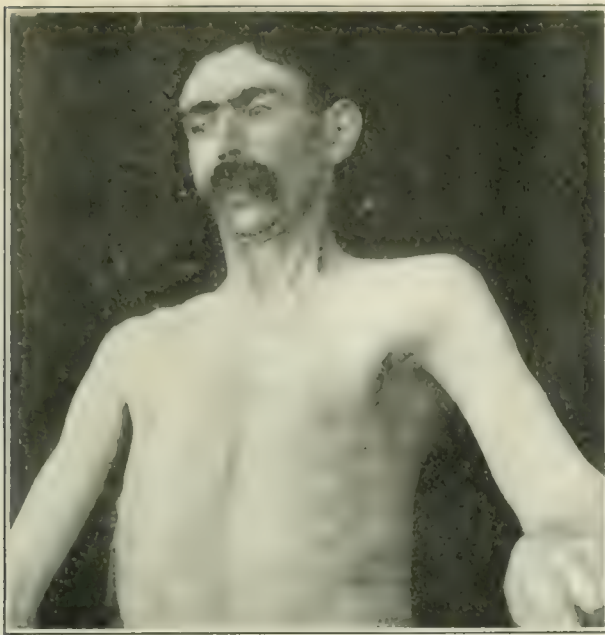


FIG. 1.—Sarcoma attached to venter of left scapula, presenting anteriorly.

few slightly enlarged lymphatic glands could be felt in the axilla over the surface of the tumor.

The patient's temperature for a few days after admission ranged between 98.4° and 100.4° , his pulse usually being between 90 and 100. There were a few râles scattered over the chest, and his sputum being profuse was examined for tubercle bacilli, but found negative.

The diagnosis being uncertain an exploratory incision was made in the axilla, and a section of the growth which was found attached to the venter of the scapula was removed for microscopical examination, together with the axillary glands overlying the tumor. The report of the pathologist, Dr. Norris, was giant cell sarcoma, the glands not being involved. Of course, if the diagnosis could have been made with certainty without an exploratory incision, this would not have been done, as it undoubtedly increases the chance of metastasis; but with the possibility of a tuberculous osteitis of the scapula in view, such a major operation as interscapulothoracic amputation could not have been recommended until the diagnosis was confirmed microscopically.

On October 6th interscapulothoracic amputation was performed, following with a few modifications the method suggested by Berger in 1887. The successive steps in the operation consisted in: The incision over the clavicle; subperiosteal resection of its outer two thirds; ligation of the subclavian artery and vein; division of the pectoralis major and minor muscles; injection of the brachial plexus with a one per cent. cocaine solution; shaping of the flaps while giving the cocaine time to "block" the nerves; division of the plexus; division of the latissimus dorsi; turning back of the arm and scapula; division of the muscles attached to the scapula; hæmostasis, particularly of the scapular vessels and those of the chest wall; and suture of the wound with a drain of rubber tissue at its lower angle. The drain was removed at the end of thirty-six hours, and union was by first intention. The patient was allowed to leave his bed on the sixth day.

Details of the operation have been so thoroughly described by Berger, Fowler, Le Conte, and Cobb in recent articles that it is unneces-

sary to go into further detail here, beyond calling attention to the use of the cocaine injection as recommended by Crile and by Cushing, and the method of gaining access to the subclavian vessels. The original method suggested by Berger was resection of the middle one third of the clavicle, and this method seems to have been followed by most operators. Le Conte, in 1902, and Berger in a recent article advocate the removal of the entire clavicle. This seems to add to the danger of injuring the pleura and sufficient room to reach the vessels, even when they are displaced by the tumor as in the present case, is obtained by a subperiosteal twisting out of the outer two thirds of the clavicle with immediate division of the pectoralis major muscle.

Concerning the operative mortality and duration of life after operation Jeanbrau and Riche give a most complete review of the literature with personal communications in 188 cases, 125 cases being verified histologically. Before 1887 there were thirty-five cases, nine died, giving a mortality of 29.16 per cent. Since 1887 there were 153 cases, twelve died, a mortality of 7.84 per cent.; and of certain particularly unfavorable complicated cases were excluded, of 5 per cent. They found the average duration of life after the operation to be three years and obtained reports of twenty-four patients alive after

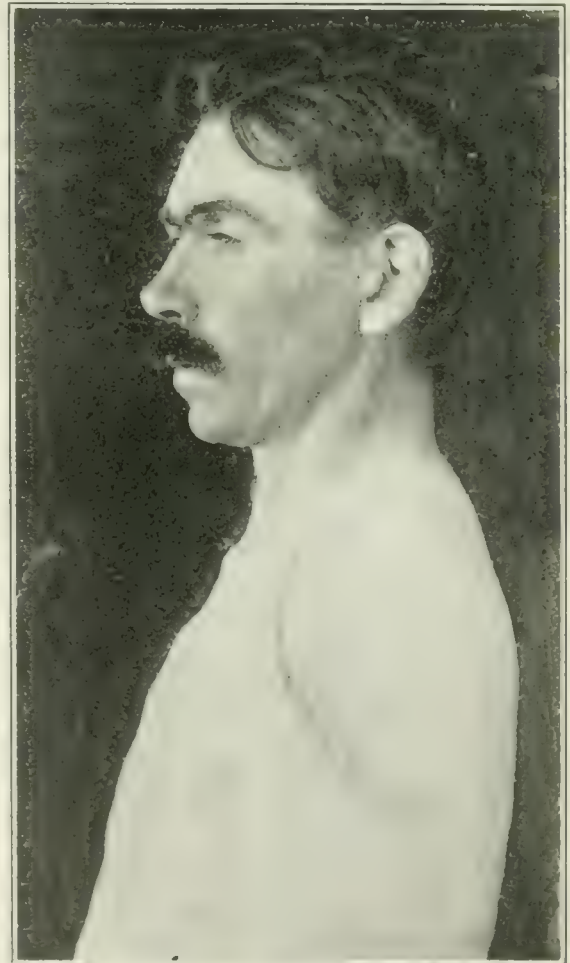


FIG. 2. Two weeks after interscapulothoracic amputation.

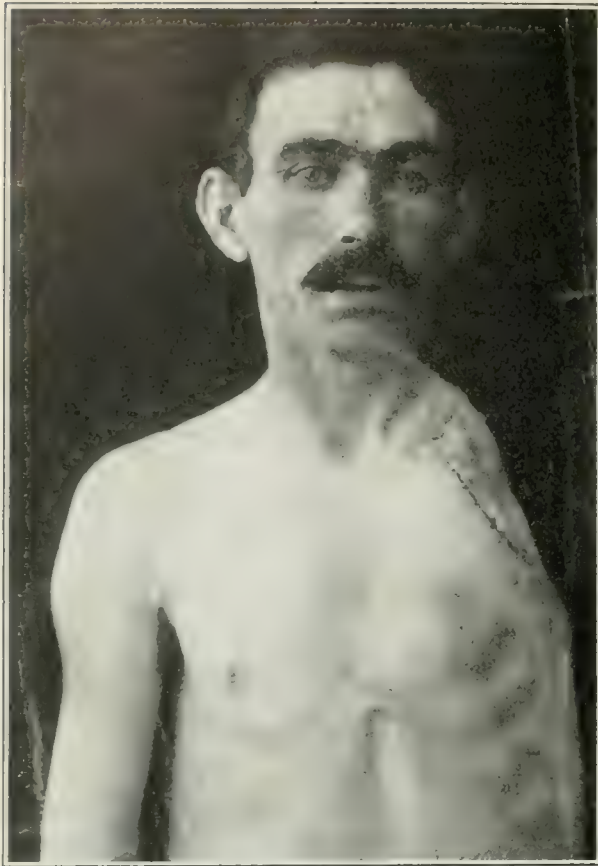


FIG. 3.—Two weeks after interseapulothoracic amputation.

five years, one living twenty-six years after the operation.

Berger, in the same number of the *Revue de chirurgie*, adds three new cases of his own, and reviews the above statistics with special regard to the mortality and the percentage of recurrence, according to the location of the tumor. In his statistics he excludes the cases of chondroma in the above list. In sixty-four amputations for sarcoma of the humerus there was a mortality of 3.12 per cent. In thirty-five cases of sarcoma of the axilla 11.24 per cent., and in twenty-five cases of sarcoma of the scapula 25 per cent. Recurrence after sarcoma of the humerus occurred in 48 per cent. of the cases, of the scapula in 66 per cent., and of the axilla in 68 per cent. Of course, the statistics of mortality are probably more favorable than the actual mortality, as favorable cases are more apt to be reported than those that end fatally, but even such being the case and keeping in mind the probability of recurrence, the operation seems justifiable where there appears even a chance of recovery, as the pain suffered by these patients, especially where there is pressure on the brachial plexus, is excruciating in character.

In the list of 125 cases published by Jeanbrau and Riche there were but nine giant cell sarcomas reported. Cobb has added one case to this number. Five involved the humerus and scapula, one the head of the humerus, and three the scapula alone, so this case being one of giant

cell sarcoma of the scapula seemed sufficiently unusual to be worthy of reporting.

A recent letter from our patient he states that he is in good health, and examination by his physician shows no signs of recurrence, it being now more than seven months after the operation. As giant cell sarcoma is less malignant than the round cell variety, the prognosis is fairly hopeful.

145 WEST EIGHTY-FIRST STREET.

EXFOLIATIVE DERMATITIS IN THE NEW BORN (RITTER'S DISEASE).*

By B. M. BAKER, M. D.,
NORFOLK, VA.

Ritter's disease is an acute affection of the skin found among children during the first few weeks of their life, resulting in entire and perfect recovery within ten days, or else in death, the mortality being about fifty per cent.

I report the following case because of its great rarity in the United States, and because of the fact that all of us physicians practising general medicine and obstetrics are liable to see it, and are likely to overlook it; and failing in the diagnosis, we may give a more favorable prognosis than we should. It was first observed in the Foundling Asylum in Prague. Ritter reported 300 cases there between 1868 and 1878. Capori states that he has seen such cases in Vienna and separated it from pemphigus. Von Baer reported a few cases also; Caspary a case in 1884, and perhaps others. Crocker, of England, says: "None have been reported in Great Britain." Morton, of New York, and Das, of Calcutta, each reported a case, one in 1895, and the other in 1899. Other observers have reported cases, which upon investigation proved to be pemphigus neonatorum. I later learned that Spencer reported a few cases in Sydney, which were called by another name, but while the initial lesions varied, erythema, macula, papule, vesicle, pustule, or bulla, all were followed by widespread exfoliation and behaved generally like Ritter's disease.

In 1888, Dr. George T. Elliot, of New York, recorded five cases, and in 1892 one other. These, together with the one which has just come under my notice and one reported by Morton, make up the entire list in the United States, so far as I have been able to ascertain—hence my reason of bringing it to your notice.

Ritter's disease appears early in infancy, rarely before the end of the first week; generally between the second and fifth week of life. While the outbreaks are always acute they vary in acuteness as well as intensity of the symptoms. The process develops very suddenly in the form of diffused redness or erythema, usually involving the lower half of the face first, about the mouth, thence spreading over the cheeks, forehead, and neck, thence to the chest, abdomen, and extremities, or it may appear in patches; however, it may begin elsewhere or be univer-

* Read before the meeting of the Seaboard Medical Society of Virginia and North Carolina, at Washington, N. C.

sal. The whole thing is a rapid process. As a rule the extremities are the last parts attacked. The color of the affected skin varies from a red to a purplish red. By the time the redness has extended to the whole body, consuming not more than thirty-six or forty-eight hours, the exfoliation begins upon the parts first affected.

Exfoliation may occur without any evidence of exudation, the epidermis being slightly thickened, wrinkled, dry, and fissured into pieces of all sizes, loosened at the edges and removed by any slight mechanical action. Underneath this layer there will be found a thin layer of new epidermis, or part of the body may be as described, and in addition scattered irregular patches, particularly on the extremities of horny epidermis lifted up by an accumulation of fluid beneath it; these burst and form a crust, or if rubbed off leave a raw surface, giving the appearance of a child having been scalded. The skin wrinkles and lifts up in layers, so to speak, overlapping one another, giving the appearance somewhat of a fish with scales turned the wrong way. In such cases when the disease is at its height the baby presents a pitiable appearance; at the same time there is exfoliation of the epithelium of the nose and mouth, with the corners of the mouth fissured. The conjunctiva is injected and red with the accumulation of seropus, which seals the child's eyelids. Desquamation takes place very rapidly, followed quickly by regeneration, and in favorable cases the child is virtually clean at the end of ten days, unless some complication arises. The process is not accompanied by fever or systemic disturbance, unless some internal complication exists. The infant's functions are usually normal, and it loses little, if any, in weight.

In severe cases, however, marasmic condition may rapidly supervene, and even after all cutaneous symptoms have disappeared the infant may become cachectic. Relapses do occur occasionally, usually mild, ten or twelve days after the first attack; sequelæ in the form of boils are most common, but abscesses and phlegmonous processes with consecutive sepsis and gangrene may also occur.

Little can be said about the pathology. Ritter held that it was a pyæmic infection, but others pointed out the fallacy of this, owing to difficulty of imagining a pyæmic process without a purulent focus as a starting point, or one so extensive and yet localized entirely in the superficial layers of the skin, or because of its acute course without an elevation of temperature. Certainly in the case that came under my knowledge a purulent focus was present, which will be pointed out later, and I feel very ready to accept and adopt that solution of the matter, since apart from this I am at a loss to know what could have been the cause of it. Others think it is connected with and presents a great increase in the physiological desquamation of the epidermis of the new born. Others regard it as a pemphigoid eruption. I am inclined to agree with some and separate it from pemphigus. Riehl has communicated the discovery of a fungus with long, thin mycelia in connection with the disease, and

concludes that it is its cause. This sounds reasonable, though awaiting corroboration. Elliot is inclined to accept a parasitic theory as the most satisfactory from his clinical experience.

Ætiologically we are again at a loss, and we must await developments that may come from the use of the microscope.

Diagnosis.—In a typical case like the one I will describe to you, little difficulty is experienced in recognizing it. Age of the patient, acuteness of the attack, rapid extension of the process; its superficial seat and its rapid course without pyrexia, and its very characteristic desquamative features, readily differentiate it from other skin eruptions. We will, however, discuss a few with which it might be confounded. *Pityriasis rubra* or *Hebræ*, and the ordinary exfoliative dermatitis, may be excluded because they are limited to adult life. Simple erythema of the new born and infants is excluded by the fact that



it develops in the first few days after birth and disappears without desquamation.

It may be confounded with the condition due to hereditary syphilis, however the possibilities of this condition is disproved by the facts that the latter is rarely general, later in its appearance, is much more prolonged and grows steadily worse unless checked by antisyphilitic treatment. Acute eczema in infants is accompanied by fever, and presents many lesions, vesicles, crusts, and moist patches, not uniformly but irregularly distributed here and there. We can see that patches are made up by aggregations of these lesions and not by diffused erythema followed by desquamation.

Itching is prominent in eczema, and the process runs a very much slower course, and frequently relapses and shows a tendency to chronicity. Erysipelas in the new born is as a rule localized, rarely extending to the whole body. Marked pyrexia, general systemic participation, and the character of the cutaneous lesion readily distinguish it. Pemphigus, simplex and foliaceus, even in the acute cases, runs a slower course. It begins earlier always than Ritter's disease, generally the first few days after birth, always before the eighth and rarely after the

fourteenth day; it does not begin with an erythema, but with an eruption of discrete bullæ upon the erythematous base. The lesions appear in successive crops for a week or more, but rarely after the first month of life. A few cases of pemphigus present large bullæ, which become confluent, and finally burst, exposing the acuteness covered with pulpy layer of sodden rete and epidermis shreds.

The exanthemata should be readily recognized by the marked hyperpyrexia, catarrhal symptoms, angina, and the whole course of the disease is different. The prognosis is unfavorable. About one half of the cases die either from the intensity of the attack, exhaustion, secondary septicæmia, marasmus, or loss of animal heat, owing to the body being denuded of its natural and protective coat.

The treatment is altogether supported with a local application of some bland antiseptic fat. Boric acid, resorcin, carbolic acid, or ichthyol.

ACCOUNT OF THE CASE.—On September 11, 1904, a male child was born to Irish parents—mother thirty-two, father thirty-eight. The family history of both mother and father was negative; personal health record of both parents was good, they having had children's diseases only. The child was born eleven months after their marriage, and weighed nine pounds, normal vertex presentation, large head and hard bones. Mother had a normal pelvis, was in labor twelve hours. Low forceps were then applied because of her exhaustion, and delivery accomplished without injury to mother or child. Stump of the umbilical cord came off on fourth day leaving a fungus base which resulted in a slight inflammatory process with a small amount of purulent discharge. This was entirely cured in ten days by clamping the granulations and cutting them off, water and soap, and solution of hydrogen dioxide being used.

On Friday night, September 30th, the child spent a very fretful night. Saturday it was more fretful and its mother noticed its face red and slightly swollen. It spent a sleepless night Saturday. Sunday morning the redness about the face was more general and there was more swelling. I being out of the city another physician was called and thought it either erysipelas or possibly hereditary syphilis, a very natural conclusion to come to at that stage. The whole face was then involved, markedly erythematous and swollen. The child was given soothing lotion and a little sodium bromide, and by Monday morning when I returned, the erythema had extended to the body, and the face had begun to crack, especially around the corners of the mouth and the eyelids. No abnormal temperature was found. By Tuesday morning the eyes were entirely closed with injection of conjunctiva and slight mucopurulent discharge, and the head was very much enlarged; there was less redness, and the skin of the face, head, and neck was cracked and beginning to wrinkle and exfoliate. On the extremities there were a few large irregular bullous patches containing a seropus, which dried up rapidly and exfoliated like the rest of the skin. This erythema followed by exfoliation extended almost over the entire skin surface. There were only a very few patches where there was any moisture, and these on the extremities.

During the acuteness of the condition it was difficult to make the baby nurse at all, and the child looked seriously ill. On Wednesday exfoliation was at its height, being more extensive on the face where the erythema began first. Head and face grew smaller with this desquamation and a pink glazed base was left where the skin came off. The body was at no time so seriously involved as the face and head, but

except for very small patches here and there, desquamation took place from the whole surface. Thursday and Friday the skin came off in large amounts, so that there was as much as a teacupful at one time collected after undressing the baby.

Saturday found the face perfectly clean and by Sunday the exfoliation of the whole body was virtually complete, and Sunday afternoon the priest baptized it. The improvement in the child systematically began about midday of Wednesday. The treatment consisted of using freely bland soap and water and local applications of very weak carbolyzed sweet oil. Forced feeding and a little alcohol was all that was required in the height of the disease. The child lost all of its hair, which gradually returned. There was no infection of gonococci, but further than that no examination was made of the discharges from either umbilical stump, bullous patches, or eyes, nor was the fungus with long thin mycelia discovered by Riehl and thought by him to be the cause of the disease looked for.

I am greatly indebted to Morrow's *System of Genito-urinary Surgery, Syphilis, and Skin Diseases* in making the diagnosis and preparing this paper.

177 FREEMASON STREET.

ABUSES OF ETHER IN ABDOMINAL SURGERY.*

By J. W. KENNEDY, M. D.,

PHILADELPHIA.

(From the Clinic of Dr. Joseph Price.)

No operator is a surgical general until he can intelligently command his anæsthetic. Justifiable and harsh criticisms by our southern and western friends have made me champion the cause of "God's greatest blessing to suffering humanity."

Their criticisms have been justifiable only when they compare their skilled use of chloroform with that of ether in the hands of a tyro. In Dr. Joseph Price's private hospital the use of ether has been so gratifying that we feel it a pleasant duty to defend so staunch a friend.

The administration of any anæsthetic begins with the education of the nurse or those attendants who have to do with the patient prior to its administration. The many horrible tales incident to the anæsthetic which come to the patients ears have much to do with the nervous state and dread with which the patient approaches the operating table, and often postpone the operation, thus complicating the pathology.

Instruct your nurse and attendants to have nothing to say about the anæsthetic. In their eagerness to educate the patient to the fact that the taking of ether is a pleasant dream, they excite suspicion which breeds timidity and nervousness. A few words from the etherizer when he enters the room is sufficient. Tell your patient the truth. Explain to him that in a certain stage it may be a little hard for him to breathe, but this is a normal condition and he is doing nicely. I have had many patients thank me for this little instruction, and say if I had not told them such would be the case the alarm at a certain stage would have been unbearable. Get and keep the confidence of your patient.

* Read before the West Philadelphia Medical Association.

Although I have had some experience with the many different appurtenances through which ether is given, I know of nothing so good as a gauze towel one yard square, folded until you have a pad nine inches square. It is something you always have, simple and not alarming to patient, takes less ether and you can easily and uniformly administer the same through the gauze which is always clean and fresh. We should learn to work with simple materials. The ether cone and many different inhalers are a very unnecessary part of our paraphernalia and to condemn them as a class, would say that their mechanical effect is alarming to patient, each has a certain humidity which is oppressive and prevents that free circulation of air, so necessary to carry the ether to the patient. Plain gauze has none of these untoward affects.

In your instruction to the patient in regard to the manner of breathing, do not overeducate him, or, in other words, do not encourage him to take extravagant inhalations or exhalations. If so, later in the anæsthetics the breathing is greatly oppressed and your patient apparently ceases to breathe. I have so often seen this that I call it the stage of alarm to those who are not accustomed to seeing many anæsthetics. I feel almost justified in saying that in a properly administered anæsthetic you should have no stage of excitement.

How shall we give the patient ether? Feed it to him, give him what he can take comfortably and not one drop more. If you crowd the anæsthetic before the special senses are conquered and the mucous membranes are benumbed, the patient rebels and the battle is on.

Can any contrast be greater than that of the two pictures. One, the struggle of the patient against a smothering anæsthetic; the other, the peace of a properly administered ether. In the first picture we see the agony of gross ignorance; the second, a victory of pure intellect.

There is no department in our grand profession where a little well administered intelligence will add so much to the comfort of the patient. You win or lose the victory and confidence of your patient in the first moment of the anæsthetic. It is our rule to place the gauze (tent shape) over the patient's face, the thumb and index finger controlling the gauze, the remainder of the hand splinting the lower jaw to the upper. Allow your patient to take a few breaths before any ether is put on the gauze. I believe this a better plan than to start with ether on gauze, held some distance from the face. These are small, but important factors in a peaceful etherization. Do not interpose gauze between the patient's chin and the hand that is supporting the jaw. The gauze may become saturated and give the patient an ugly burn. Begin your anæsthetic by putting one drop on gauze and give the ether continuously, increasing progressively. Your patient can take more ether the second minute than he can the first, so why not feed it to him as he breathes?

I never could understand why so many anæsthetizers persist in pouring a quantity of ether into an inhaler and then wait half a moment and

repeat the dose. Your patient is receiving the ether inversely as he should. He does not breathe in installments, why then, so give the ether? From the first drop of the anæsthetic, continue its application without intermission until you have reached the surgical anæsthetic. There is no stage in a properly administered ether from the beginning until the patient is ready for the operating table necessitating suspension of the anæsthetic. The step like administration of ether is a great mistake. You give excess of ether, prolong the anæsthetic, waterlog your patient, and irritate the operator.

In the last two thousand anæsthetics in Dr. Price's hospital we have averaged about four and one half ounces to the patient; time to obtain a surgical anæsthetic from four to six minutes. You can etherize any patient in this length of time by the continuous application of ether and make the anæsthetic so congenial that your patient will not lift his hand from the side.

The relations of the operator and the anæsthetizer to the patient should be just as æsthetic while patient is under ether as when not. Any unnecessary traumatism is brutal to the patient and abusive to this great blessing. The barbarous use of sharp instruments for traction on patient's tongue has emanated from authors who have no working knowledge of any anæsthetic and whose conscience is no benison to humanity. Too much of our literature on this subject has come from compilers of therapeutics who have never sat at the head of a patient. In many of our teaching institutions special lectures are given on the armature of the anæsthetizer; detailing specially devised instruments as apologies for the ignorance of the etherizer. Would it not be better and more humane to be a little more prophylactic and establish a chair, whose business it was to instruct our students to intelligently administer anæsthetics and relegate the jaw forceps and tongue harpoon to an unthinking profession?

Preceding the administration of ether by some of the lighter anæsthetics seems to be the progress of the age. Although we cannot condemn progression anywhere we find it, yet I am sure this practice has an element of danger. If you have preceded your ether by any of the rapid anæsthetics, of which ethyl chloride is an example, you have robbed yourself of a great deal of valuable information which is acquired from a close study of the patient's reaction to ether from the beginning of the anæsthetic. The patient educates you as you progress in the anæsthetic to his particular manner of breathing and other valuable symptoms which form the picture of submission to the anæsthetic. For a like reason do we condemn a change of etherizers during any anæsthetization. The second conductor has not had a chance to study his patient and is not intelligent as to the stage of the anæsthesia. Dr. Price requires the most intimate cooperation from his anæsthetizer. Both are fighting a common cause. Never keep the patient more deeply under the anæsthetic than is consistent with the work of the operator. A knowledge of surgical shock from manipulation in different regions of

the abdomen would be of infinite value to the conductor of the anæsthetic. Traumatism, in region of the solar plexus, is often accompanied by great respiratory and circulatory depression, a fact of which the etherizer should be familiar.

It would be interesting to know just how abusive the excessive Trendelenburg position is to the anæsthetic. It certainly has an ether mortality due to the pressure or traumatism upon vital centres or mechanical weight and pressure from viscera upon respiratory and circulatory apparatus. This reversed position of the anatomy causes an unnatural flooding of structures with venous blood for a good space of time. I believe it to be an important factor in the ether pneumonias. Dr. Price, who never uses this position, has not lost a patient from an ether pneumonia. The great relaxation of the tissues which is incident to the anæsthetic and a valuable assistance to the operator should receive due respect and not be infringed upon by unnatural positions which necessitate traction, pressure, and traumatism to vital centres and structures.

In an operation of ordinary length, from two thirds to three fourths of the amount of ether given will be taken before the patient reaches the surgical anæsthetic, very little being required after this stage.

No one sign or symptom as a guide should be relied upon in conducting an anæsthetic. The picture is one of symptoms complex, of which the respiration is the most important guide. The temporal artery is very accessible, and you should keep in touch with the pulse. The conductor who relies upon the reactions of the pupil as an index to the anæsthesia will often find himself in deep water. If you feel it necessary to frequently examine the pupil (and I do not think it is), do not touch the sensitive epithelium of the cornea with the finger, nor is it necessary to touch the eyelid with the ether stained finger. Slight traction over the supraorbital ridge will elevate the eyelid.

Very exceptionally in the early part of the anæsthetic at the stage where volition is about to be conquered you are impressed from symptoms or signs that there is a battle raging between voluntary and involuntary forces, indicated by the patient's inability to take a deep breath. Give your patient one or two breaths of fresh air. He will pass immediately into a surgical anæsthetic. Again, there is that patient who is well under ether, yet his respirations are shallow and without force. He seems to appeal to you for a respiratory stimulant. Have the operator begin the operation, and you will find the touch of the knife a respiratory stimulant in this stage.

There is a certain class of patients who remain rigid late in the anæsthesia even after you are sure the surgical stage has been reached. In your eagerness to relax the patient, do not force the ether. After the patient has remained in this condition for a short time, you find that he will pass profoundly under its effects.

Students often ask "Is there any one sign which tells you to give the patient more ether?" I do not think there is; yet if you are watching

the breathing of your patient closely you will find, in nearly every case before he resists the operator, the patient will take a long sighing inhalation. A few drops of ether at the second will continue a uniform anæsthesia.

Although the operator is and should be held responsible for any error in the operating room, the position of the anæsthetizer is a most responsible one. I once heard an interne physician say that he would kill his patient with the anæsthetic if told to do so by the operator. Such mock loyalty to the operator could only emanate from a brute from whom we expect no act of conscience. There are many tragedies in our profession which are inevitable, but a man's carelessness is his own fault and more to be deprecated than the most flagrant ignorance.

I cannot in this paper take up a discussion of the comparative merits of the different anæsthetics. We believe ether to be the least sensitive and the most reliable anæsthetic of the day. It has proved to be such a champion that its merits are much abused. When we are forced into an emergency and the anæsthetic is turned over to a layman, ether is our choice.

We have given it repeatedly in the hospital in all the organic lesions of the heart without any bad effects, due attention being given to a uniform anæsthesia. It is the most durable in its postoperative anæsthetic effects. The patient does not so often complain of that keen sting of the knife which lasts a few hours after any operation. I do not think any operator with a sense of refinement likes to be told by his patient that he feels the sting of the knife.

If your patient attempts to interfere with the administration of the anæsthetic, do not forcibly pin his hands to the sides, simply control them. Any attempt at violence excites your patient and produces a struggle. I believe the battle can be won by gentleness and kind decision.

History certainly repeats itself. Before the days of anæsthesia, we were compelled to control the patient by force; if necessary he was strapped to the table, to-day in some of our institutions, I am informed, he is strapped to the table so that the abuses of this great blessing may be perpetrated. I enter a plea against the infringements upon this humane agent.

1409 SPRUCE STREET.

Therapeutical Notes.

Silver Wire in Large Herniæ.—Wiener recommends the use of filigree of silver wire which remains in the wound becomes filled with granulation tissue, and does not prevent healing. All but one of its wires run across the long axis of the hernial opening. It should overlap the wound an inch all around, each wire ending in a loop. It should fill the gap of the hernial opening, and there should be no tension. It should be placed as deeply as possible, the muscles being dissected all around before introducing it. Two may be introduced at different planes if desirable. The superficial plane of tissue may

be loosely closed by silver sutures.—*Annals of Surgery*, April, 1906.

Subcutaneous Injection of Oxygen Gas in Surgical Infectious Diseases.—Rottmann (Berliner medizinische Gesellschaft, *Wiener medizinische Wochenschrift*, April 28th), in the treatment of furuncles, carbuncles, felons, and abscesses, injected oxygen gas under high pressure, according to the method of Shiriaz, into the vicinity of the local inflammation. Originally this method was directed against infections by anaerobic bacteria such as gas phlegmon. The reporter also has had good results in the above named conditions by checking the spread of the infection and shortening its duration. Unfortunately, the injections are rather painful.

A Case of Pulmonary Tuberculosis Cured by High Frequency Currents.—A. Leun (*Annales d'électrobiologie et de radiologie*, January, 1906) reports a very severe case treated by high frequency currents produced by a Rochefort's bipolar resonator fed by a sixteen inch spark coil. A metallic screen connected with one of the solenoids was placed on the patient's back. The other solenoid was connected with the effluvator. The effluvia were directed towards the right apex for about eight minutes, and later towards the gastric region for two or three minutes. After five treatments improvement appeared, but the temperature jumped to 104° and 105° F. Another course of treatments a month later was followed by the same improvement and the same rise in temperature. After each of those thermic ascensions, the general condition became better, the bacilli less numerous, till after six months a permanent cure was obtained.—*The Archives of Physiological Therapy*, May, 1906.

Action of Mercury on the Suprarenals.—M. Molinié (*Archives de médecine navale, Bulletin général de thérapeutique*, April 8, 1906) reports a case of death on the fourteenth day of an adult, who had swallowed a saturated solution of corrosive sublimate in which he found the suprarenal capsules greatly hypertrophied and congested. Although similar cases have not been observed in man, Oppenheimer, Bigard, and Bernard observed in guinea pigs a well marked affection of the suprarenals after being poisoned by lead. Molinié invites attention to the occurrence of lesions of the suprarenal capsules in mercurial poisoning, and to the importance of watching this organ during the mercurial treatment of syphilis for symptoms of disordered function (shown by muscular fatigue, bronzing of the skin in old syphilitics, etc.). He also calls attention to the correlation which seems to exist, in this form of metallic poisoning, between rapid degeneration of the myocardium and lesions of the suprarenal capsules.

Red Urine Simulating Vesical Hæmorrhage, Caused by Ammoniacal Fermentation.—Before the Société d'obstétrique de Paris (*Le Progrès médical*, March 24, 1906) Bar and Daunay read a communication on a case of false bloody urine and false membranous cystitis in a pregnant

woman. At the time of passing the urine this fluid was rose colored, with a heavy deposit of pus. In the course of a few hours the urine took on a general purple tint, and the deposit looked like cheese. The purple color was found to be due to murescine, developed by ammoniacal fermentation, which began in the urinary passages. By adding ammonia to the fresh urine, this phenomenon was produced immediately. The administration of phosphoric acid to the patient and irrigation of the bladder effectually prevented the rose coloration of the urine after it was passed. Cystoscopic examination showed two lateral pouches conveying pus adhering to the vesical mucosa and resembling false membranes; they disappeared after lavage, and the color phenomenon also ceased. Attention is directed to other conditions in which bloody urine is said to be passed, but which in reality are not due to hæmorrhage.

The Relationship of Osteomalacia to Exophthalmic Goitre.—Ernst Hönicke (*Wiener medizinische Wochenschrift*), in his recent work, declares that a new departure in the history of osteomalacia began in 1886, with the announcement of Fehling's discovery of the curative influence of ovariectomy. Fehling regarded the disease as essentially a trophoneurosis of the bones, a theory which, although supported by many facts of experience, nevertheless has not been universally accepted. Opposed to this view is the occasional failure of castration, the occurrence of senile osteomalacia, also masculine osteomalacia, and the characteristic geographical distribution; the occurrence of family groups, the development of a return of the disease after a long while after a castration, which at the time appeared to be successful. Much less did it give an explanation of the well established fact of the endemic distribution of osteomalacia. The special studies of Hönicke were instigated by seeing cases complicated with Basedow's disease. This connection had previously not been suspected. His investigation and observation of these cases demonstrated to his satisfaction that the original question as to the relation between osteomalacia and Basedow's disease can no longer be asked, since the existence of one is involved in the existence of the other. Thus, osteomalacia finds its geographical distribution corresponding with goitre. From his studies of the subject, the author has arrived at the remarkable conclusion that osteomalacia is an expression of some disease of the thyroid gland. The thyroid is the locality of the disease, and the general clinical picture of the disease corresponds with that of other thyroid gland disorders. The curative influence of castration does not indicate that the ovaries were the site of the disease. It is probable that the ovaries and the thyroid gland both work physiologically on the same material. Disease of the thyroid disturbs the metabolism of the phosphorus compounds, apparently leading to increased excretion of phosphorus. Garth and Curatulo have already shown that after ovariectomy there is a decrease in the urinary phosphates.

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NEW YORK, SATURDAY, JUNE 9, 1906.

PRESIDENT MAYO'S ADDRESS.

The address delivered before the American Medical Association at the Boston meeting, this week, by the incoming president, Dr. William J. Mayo, of Rochester, Minnesota, one of our greatest surgeons, was not strikingly different, in tone or in the topics selected for treatment, from the general run of presidential addresses read before the great organization over which he had been called to preside. It contained, however, some felicitous expressions that seem worthy of note.

Speaking of the relations of the medical profession to the general public, Dr. Mayo said: "Society appreciates the saving of a sick person's life by the skilled physician, but fails to see the priceless gifts to the human race made by preventive medicine and sanitary science. It views everything in detail and misses the perspective." But that is precisely the faulty view that society is prone to take of all great matters that concern it. People are keen to remember whether it was Smith or Jones who stole most of the funds of a corporation, but they give little heed to the faulty system under which it was possible for either Smith or Jones to steal anything.

We do not remember to have seen a more admirably pithy and accurate statement on the subject to which it relates than the following: "The germ theory, promulgated by Pasteur and given surgical significance by Lister, strengthened our foundation by adding to it the long sought for causation of the majority of diseases, and this, with the aid of experimental research, has led

the practice of medicine out of the wilderness and established it as one of the exact sciences." Perhaps, in the light of our present therapeutics, Dr. Mayo was a little optimistic when he urged that society should be taught the early symptoms of cancer, so that it might be recognized while it was yet in the "curable period."

Very forcibly did he present the moral responsibility of municipalities in the matter of epidemics when he declared that a person who contracted typhoid fever by reason of municipal neglect was quite as much entitled to sue for damages as if he had sustained injury to his person by a fall occasioned by a defective pavement. Much as men may conscientiously differ as to the advisability of compulsory vaccination laws, it cannot be denied that Dr. Mayo made a forcible plea for them when he said that in a recent Minnesota epidemic 27,876 persons had been infected with smallpox because "a small but vociferous band of antivaccination agitators" had made it impossible to enforce vaccination.

Interstate reciprocity in licensing, or at least some escape from the present onerous conditions restricting the right to practise, was ably advocated by Dr. Mayo, and he gave a true picture of the evil of the secret division of consultants' fees with those by whom they were called. The practice is in every way reprehensible and repugnant. Fortunately, as we believe, it is restricted within very narrow limits. We think that Dr. Mayo was on the right track when he intimated that physicians were partly to blame for the present impairment of the former hearty accord between the medical and pharmaceutical professions.

DR. BRYANT'S ADDRESS IN SURGERY.

It is worthy of mention at the outset that the formal address given at the Boston meeting of the American Medical Association by Dr. Joseph D. Bryant, of New York, was, as he himself suggested, not properly an "oration on surgery," though it was thus officially designated, but an address on a topic in surgery. "It is not my intention," he said, "to attempt a review of the whole field of surgery, nor even of a year's experience, but, instead, to devote the brief time given me to the consideration of a surgical topic."

The topic chosen by Dr. Bryant was cancer, and he handled it in a way to interest and instruct his professional hearers and to be readily intelligible to the lay members of the audience. He wisely refrained from direct argument on the unsettled points in the nature and causes of

malignant growths, though several useful deductions as to those points may legitimately be drawn from what he said. While not questioning the opinion that cancer is on the increase, Dr. Bryant called attention to the very practical point that the undoubted prolongation of human life of late years had necessarily resulted in the survival of a great number of persons to the age of particular liability to malignant disease. The inference is that cancer is no more likely to attack a given individual now than it was formerly.

Dividing cancers into those readily accessible to the ordinary means of exploration, those not so accessible, and those of an intermediate character, Dr. Bryant spoke of the great frequency of internal cancer and the bearing of that frequency on the idea of traumatism as an element in the ætiology. It seems that deep seated cancers cannot very often be due to traumatism unless we extend the meaning of that word so as to make it cover much more than mechanical injury. Hence mechanical irritation can hardly be regarded as among the conditions chiefly promotive of malignancy, though it doubtless has its effect along with other causes.

The early recognition and prompt operative treatment of cancer, Dr. Bryant is constrained to conclude, still constitute by far our most hopeful means of attempting to prevent death from the disease, or at least its decided postponement, together with the substitution of comparative comfort for agony; but he does not speak of a curable stage, though he says that not a few of those who subject themselves early to ablation will be definitively cured.

DR. SHATTUCK'S ADDRESS IN MEDICINE.

Under the heading of How Progress Comes in Medicine, Dr. Frederick C. Shattuck, of Boston, gave an address in medicine before the meeting of the American Medical Association, held in Boston this week, which was a succinct and very spirited account of the achievements that had led up to the present position of medicine, especially in anatomy, physiology, chemistry, physics, pathology (including pathological anatomy), and clinical observation.

There were some golden statements in Dr. Shattuck's address. Not the least of them was this: "The experiments of Schiff and Horsley on monkeys, although interesting and confirmatory [of the connection between thyroid inadequacy and myxœdema], are not essential stones in the structure. The evidence is sufficiently complete without the aid of what is ordinarily termed the laboratory; and here it may be remarked that

the tendency of the present day is too much toward the limitation of the term scientific medicine to that part of investigation carried on either apart from hospitals or by men not directly dealing with the sick. The work of the clinician may be every whit as scientific as that of his laboratory brother." We hail the admission, which never ought to have been needed, that the bedside practitioner is at least the peer of the laboratory investigator. In our estimation, the practising physician is as far above the laboratory man as the bricklayer is above the man who mixes mortar.

A very forcible passage in Dr. Shattuck's address was that in which he illustrated the correlation of the sciences by adducing "the way in which a fact seemingly perhaps unimportant is always potentially fruitful, often bearing fruit of a totally unexpected kind, it may be after many days."

A NEGLECTED ELEMENT IN DIETETICS.

"To 'taste good' is Nature's stamp of approval upon a food," says Dr. Woods Hutchinson in an exceedingly instructive article entitled Some Diet Delusions, published in the April number of *McClure's Magazine*. The same idea seems to be involved in Dr. Louis Kolipinski's article on The Dietetic Treatment of the Vomiting of Pregnancy, published in this issue of the *Journal*. "A plentiful lack of smack" is the horror characteristic of almost all the dietetic preparations designed for the sick, so that ordinarily a dish of food prepared for a sick person is hardly more appetizing than a pail of bill poster's paste.

There is a widespread conviction, not only among the laity, but also in the medical profession, that anything pleasant is necessarily productive of harm to the sick. Stated thus sweepingly, it would probably fail to be generally acknowledged; but it exists all the same, and its salient manifestation is seen in the starvation to which the sick are largely condemned. It seems to be forgotten that God created the stomach to work, not to loaf. Consequently that organ is singled out for "rest" during sickness—altogether slighted or else tortured with a tantalizing pretense of feeding. One may not be inclined to recommend the indiscriminate use of fried ham in the treatment of hyperemesis gravidarum, but there is many an old practitioner who can recall instances in which persons dangerously ill, as with typhoid fever, have surreptitiously dined on soft shell crabs or some other dish of like deadly repute and lived to tell the tale, as well as cases in which the apparently moribund victims of cholera infantum have seemed to take

a new lease of life on being allowed to chew bacon.

We have been too forgetful of the necessity of flavor in food. It is a need that holds good with the sick quite as much as with the well, and it is our decided opinion that those who cultivate the art of cookery have a great opportunity to add materially to our resources in the struggle with disease, and especially with chronic dyspepsia. Let the dishes be "rich," not the poverty stricken slops of the regulation sick man's dietary—unless indeed there is thought to be no further hope than that of reconciling the patient to death, even in which event a decently humane regard for euthanasia would interdict such harsh measures.

MULTIPLE GASTROINTESTINAL POLYPI.

Polypi of the gastrointestinal mucous membrane are rare. They may occur, however, at any point in the digestive tract from the stomach to the anus. When such growths are found in the stomach, they sometimes cause a sensation as of live animals in that organ, as in a case reported by Stengel (*University of Pennsylvania Medical Bulletin*, May, 1903); when they occur low down in the rectum, they sometimes become prolapsed and give rise to dangerous hæmorrhage. When they occur along the other portions of the intestinal tract, they produce serious symptoms and sometimes cause death.

Dr. David McM. Officer (*Intercolonial Medical Journal of Australasia*, March 20, 1906) reports the case of a boy, aged nine years, who suffered from recurrent attacks of abdominal pain and vomiting. On examination, a swelling was seen just below and to the left of the umbilicus; there was neither tenderness nor rigidity. An exploratory cœliotomy was done, but nothing abnormal was detected, so that the symptoms were considered to be due to movable kidney with intermittent hydronephrosis. After the cœliotomy wound had healed, the left kidney, which was freely movable, was anchored to the posterior abdominal wall. About three months later the boy was again admitted to the hospital, complaining of the same symptoms, and a year later he was admitted a third time. On the last admission a second cœliotomy was performed, and a large intussusception was found involving about four feet of the small intestine. During the manipulations necessary for the reduction of this intussusception some lumps were felt within the intestine, but, as the patient was in a serious condition, it was thought wise not to open the intestine to determine their nature. The boy died, and at the autopsy the gastrointestinal tract, from the stom-

ach to the rectum, with the exception of the ileum, was found to contain forty-one simple adenomata, some of which were sessile and others of which were pedunculated.

THE CARE OF THE HEALTH IN THE TROPICS.

A strict adherence to the laws of physiology and to the rules of hygiene is necessary for the white man or the white woman who would work in the tropics and preserve his or her health. An article, by Dr. Mary Scharlieb, in the *Journal of Tropical Medicine* for April 16th, may be studied with profit by anyone about to start for a tropical country, whether as a missionary, for which class the article was written, or in any other capacity. The article may be particularly recommended to boards of foreign missions, who have the selection of men and women for work in tropical fields, and who direct the energies of these persons after they reach their field of labor.

THE MEAT INDUSTRY OF CHICAGO.

We have been slow to admit the existence of any serious defects in the business of the Chicago meat packers, and even now, in the light of recent charges from high quarters, we doubt if the results of a final and searching investigation will warrant very grave inferences. But the investigation must come, and it must be thorough. Any abuses that are exposed will probably be found to depend on the fact that the government inspectors, while empowered to condemn products, are powerless to enforce their destruction. That power rests with the State of Illinois and the city of Chicago.

DISTINCTION OF ENVIRONMENT FOR PATIENTS.

One of the most interesting phases of the discussion on Therapeutics Based Upon Pathological Physiology which was the principal feature of the recent meeting of the Association of American Physicians (see the society proceedings) was the suggestion by Dr. James, of New York, that patients suffering from different diseases should not be all placed in the same environment, but that there should be a distinction of surrounding conditions so as to suit individual cases. At the present time many patients with the most different diseases may be found in the same hospital ward, and practically all sufferers are treated alike, so far as environment goes, even in private practice. There is no doubt that a patient's surroundings may influence the course of the disease very much and that the special arrangement of his surroundings, so as to produce the best possible therapeutic effect, is as much a duty for the physician as the

selection of the drugs and other remedial measures that may prove helpful.

It has practically been the custom to shut up all classes of patients in rather cheerless rooms into which only by the greatest care will the doctor succeed in getting the necessary amount of fresh air. For fever cases especially, nothing could well be more unsuitable than this. Tuberculous patients used to be confined in close rooms when they had fever, because of the fear that they might take cold, and there is no wonder that under such circumstances consumption came to be considered as an incurable disease. Now we know that fresh cold air is beneficial to such patients. Recent experience seems to show that fresh cold air is of benefit to all patients suffering from fever. Even in pneumonia, in a climate as changeable as that of New York, cold fresh air, far from doing harm, does good and is better than any combination of medicines. For restless fever patients sleep comes naturally and without opiates if the windows are kept wide open in spite of the temperature going far below that ordinarily considered desirable. Cheerful surroundings are important in all cases, and in general the furnishing of a suitable environment must constitute a very necessary part of the rational physician's treatment of his patients.

LITHOTOMY IN CHINA.

The amount of work done by medical missionaries is probably not fully realized by the profession at home. These men, who are so far away from medical centres, working continuously among an alien people who do not always appreciate their efforts, seldom find time to report their work, so that the profession at large may obtain an adequate idea of its scope. Dr. John Myers Swan, who has been in charge of a hospital in Canton, China, for twenty years, reports his experience with operations for vesical calculus in the *China Medical Missionary Journal* for July, 1905. During the twenty years of his experience in Canton Dr. Swan has operated in about fifteen hundred cases of vesical calculus. He has tried nearly all the various operations, and finds that from infancy to puberty the median perineal section gives the best results, unless the stone is exceptionally large, in which case the suprapubic operation is better. In adults the lithotrite is used for small stones, but the delay in the patient's application for relief results in a great number of large stones and entails the frequent presence of suppurative cystitis. In these cases, and they form the majority, lateral perineal lithotomy gives the best results, the author having performed as many as sixty-

five operations of this character in one year without a death.

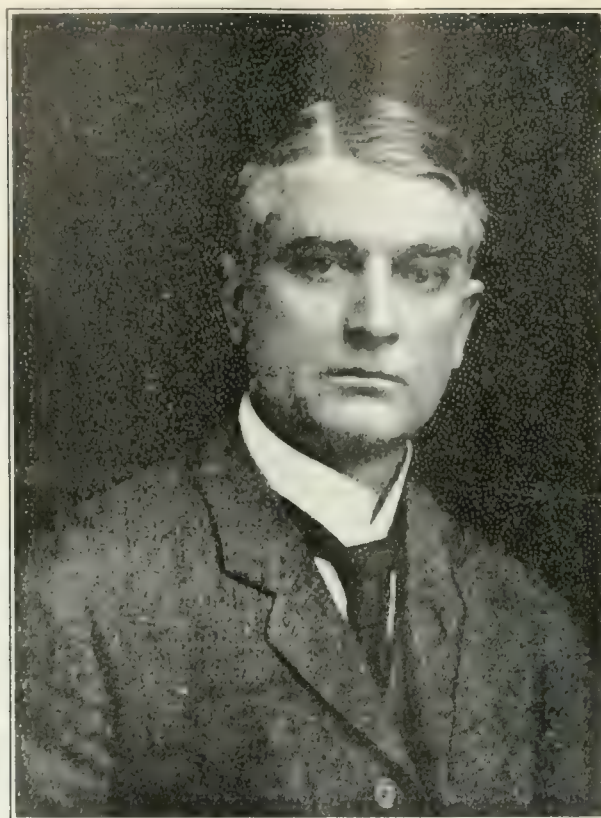
Obituary.

LOUIS A. WEIGEL, M. D.,
OF ROCHESTER, N. Y.

Dr. Weigel, who died on Thursday, May 31st, at the age of fifty-two, was a victim of devotion to science through his investigations of the Röntgen ray as a aid to diagnosis, in which he was a pioneer. He began to suffer from x ray burns on his hands in 1902. This trouble gradually increased until in the summer of 1904 he was greatly incapacitated for work. The affection was then diagnosed as epithelioma accompanied by intense neuritis. A destructive process then began and rapidly progressed until in October, 1904, he was compelled to submit to the amputation of both hands. In about three months he was enabled to resume his work, but in the autumn of 1905 the right axillary region became involved, and a large cancerous mass was dissected out in February, 1906. The wound healed rapidly, but recurrence of the disease was noted in a few weeks. Further operation was deemed useless, and death ensued. During the period mentioned his sufferings were of the most intense character and were borne with a fortitude which demonstrated the high character of the man. Dr. Weigel was graduated from the University of Maryland School of Medicine in 1875, and his professional life was spent in Rochester. His reputation extended far beyond the limits of that city, by reason of his great mechanical skill as an orthopædist, as well as his knowledge of surgery. The appreciation of his merit by the profession in general and by his fellow specialists has been evidenced by his election to the presidency of the American Orthopædic Association, and his appointment as professor of orthopædic surgery in Niagara University. In Dr. Weigel's death the profession of medicine has lost an earnest, faithful, and conscientious worker, while his associates in Rochester mourn a valued consultant and a warm personal friend.

CHARLES WARRENNE ALLEN, M. D.,
OF NEW YORK.

Dr. Allen died of enteric fever in the Colonial Hospital, at Gibraltar, on Saturday, May 30th. He had been landed from the North German Lloyd steamer *Koenig Albert*, which was en route from Genoa to New York. Dr. Allen was returning from the International Congress at Lisbon. He was born in Flemington, N. J., on December 4, 1854, and received his education at the Lycée Imperial in Nantes, France, and at the Phillips Academy at Exeter, N. H. His medical education was received at the College of Physicians and Surgeons of New York, from which he graduated in 1878. He was professor of dermatology in the New York Post-Graduate Medical School; consulting physician to the City and Randall's Island Hospitals, and was a member of the American Medical Association, the New York Dermatological Society, and the American Dermatological Association.



DR. WILLIAM J. MAYO,
President of the American Medical Association.

The Boston Meeting of the American Medical Association.

THE MEETING REVIEWED.

The fifty-seventh annual meeting of the American Medical Association, held in Boston on Tuesday, Wednesday, Thursday, and Friday of this week, was characterized by an unprecedented attendance. Up to noon on Wednesday the registration amounted, in round numbers, to 4,300. The desire to see the historic city of Boston doubtless brought many who are not habitual attendants at the meetings, and the full representation from the rehabilitated State of New York accounted for a large addition to the average number. But perhaps the most potent factor in swelling the numbers present was the practically coincident annual meeting of the Massachusetts Medical Society, which is always held in Boston. More than a thousand Massachusetts men had registered. Whatever the causes, the number far exceeded that of any previous meeting.

The sessions of the sections, as well as those of the general body, were marked by an attendance seldom if ever before approached. It might have been supposed that such an occurrence as

the meeting of the American Surgical Association, held in Cleveland only the week before, would reduce materially the number of members in attendance on the sessions of the Section in Surgery. Apparently, however, it had no such effect. Furthermore, it did not appear to have restricted the variety and interest of the papers presented before the section.

The hotel accommodations of Boston proved ample, as nobody doubted would be the case, and private hospitality was shown lavishly and in the best of taste. Men opened their houses and their clubs freely for the entertainment of their visiting brethren. The diversions provided were varied and in some respects novel. A notable and most attractive feature was the daily afternoon tea party on the grounds of the new Harvard Medical School, where hundreds of bright young women, dazzling in their white gowns adorned with the red cross of Geneva and ever and anon affording a glimpse of the Harvard crimson in their silk hosiery, served tea to the multitude. These girls fairly took the hearts of the staid and sober physicians who had gathered

from all parts of the country, and when at odd times they showed themselves singly or in little groups on the streets they served as a pleasant reminder of the festivities in which they had taken such a picturesque part. It was commonly remarked by one after another of the beholders that never had a prettier sight been seen than that of these enthusiastic damsels.

For some reason or another, perhaps on account of the scattered situations of the hotels, it was frequently said that in going about the city one did not casually encounter so many of his acquaintances as was commonly the case at meetings of the association. But the distances in Boston are not very great, and the means of transportation are ample and convenient, so that it was always easy to hunt up a friend.

Without doubt the most notable scientific feature of the meeting was the museum department, called the scientific exhibit. It was held in the new Harvard Medical School building, and, instead of the few hours that most of the members could afford to give it, it might well have occupied their attention for a prolonged period. It was a magnificent medical museum, the interesting objects in which had been brought together for only the four days of the meeting, but it would compare favorably in the extent of its contents with many a long established and permanent museum, even in the larger centres of population or in the old university towns, and in arrangement and suggestive availability for the general practitioner of medicine it was probably unsurpassed in its way.

It needed to be seen to be properly appreciated. No mere description can convey an adequate idea of its variety and scope. There was scarcely a feature of modern medical interest that was not illustrated. Anatomy, physiology, pathology, bacteriology, experimental medicine in all its phases, each had ample and appropriate representation. The exhibit in applied anatomy from the University of Pennsylvania, with the demonstration of dissected specimens of all the most common fractures and dislocations, was alone worth hours of time from the busiest general practitioner. The Mount Sinai Hospital, of New York, had a pathological collection, with illustrations of many of the very latest things in medicine. A very interesting feature was the beautifully arranged pathological exhibit of the Boston University Medical College, which was quite the gem of the collection in its completeness of display.

On each day of the meeting there were demonstrations of recent progress in medicine and the

allied sciences. Dr. Hodges's lantern slides showing the movements of amœbæ (on Wednesday) exhibited new phases of observation in this matter that promise to revolutionize previous theories on the subject. The demonstrations by Hektoen and Rüdiger, with regard to phagocytosis and especially the englobing of red cells by the leucocytes, were most interestingly suggestive, and seemed to open up new vistas in the ætiology and progress of the anæmias. But it is invidious thus to select for mention a few things where so many subjects were handled with such charity and precision, and above all with such a thorough going educational quality. This department of the annual meeting of the American Medical Association promises to prove its best and most helpful feature.

The scientific exhibit owes its inception and its development to the fruitful thought and the literally indomitable energy of one man. It did not seem to most physicians when the idea of a pathological exhibit was originally broached that physicians at a medical meeting would take much interest in it. The cost of bringing specimens and insuring their safety seemed insuperable. The first exhibit demonstrated the falsity of both these ideas, though in the mean time the projectors of the exhibit had had to guarantee the expenses incurred until it proved to go quite beyond even his promises in interest. It was but fitting, then, that the board of trustees of the association should determine, in recognition of his successful work, to present him with a loving cup suitably inscribed. Dr. Wynn modestly disclaimed the merit of it all, and nobly transferred a part of the honor conferred on him to those who had so ably seconded him in every part of the country. It was well known how deserved was this almost unprecedented distinction. We again congratulate Dr. Wynn on the wonderful success of his work, and we felicitate the board of trustees on the appreciation that led them to confer this unwonted honor. Mean time we confidently predict anew a great future for the scientific exhibit, and hope that it will be imitated more generally at medical society meetings, and thus bring them to furnish in the best sense of the word postgraduate instruction of the highest order, valuable for young and old medical practitioners alike.

The exhibition of an army hospital proved most interesting and instructive. The commercial exhibit, apart from the publishers' booths, was strikingly different from those of previous years, owing to the almost entire absence of pharmaceutical displays. Perhaps the gatherer

of free samples was disappointed, but it may be doubted if the manufacturers of drugs will greatly miss the results of the usual display.

There was a goodly attendance of famous medical men from other countries, several of whom took part in the proceedings of one or more sections. Among the prominent gentlemen from abroad were Trendelenburg, Dührssen, von



Hotel Vendôme.

Rosthorn, and von Frey from Germany, the two Ballances from England, and Reeve from Canada.

It was a novelty to see posted up here and there a sign announcing that nobody who did not wear a proper badge would be admitted to any meeting or entertainment. And the notice was enforced so rigidly that official intervention was sometimes resorted to to temper the effect. The prohibition is said to have been the work of the local committee of arrangements, and not that of the association itself. Its propriety in the case of the entertainments was held to be unquestionable, but there were some who were unable to see the reason for excluding from the scientific sessions members of the medical profession who chanced not to belong to the association.

All things considered, the meeting was a memorable one and one that cannot fail to result in the greater glory of the association and in confirming the fame of Boston for hospitality and good cheer.

PROCEEDINGS OF THE HOUSE OF DELEGATES. FIRST DAY.

The Retiring President's Address.—The House of Delegates was called to order on Monday morning, June 4th, in the lecture hall of the Boston Medical Library, by Dr. LEWIS S. McMURTRY, of Louisville, president of the association, who directed attention to the fact that this was the third time in its history that the American Medical Association had held its annual sessions

in Boston. Its first assembly in Boston was on the occasion of its second annual meeting, in 1849. Again, the association assembled here in 1865. The preparations made by the committee of arrangements served to make it clear that this would be one of the most successful, if not the most successful, of all the association's annual meetings.

Dr. McMurtry called special attention to the fact that this meeting would be rendered memorable in the annals of the association because of the return of a united profession in New York State to its fold. The crowning triumph of this event was the fact that it had been accomplished with the most perfect unanimity and harmony. Every vestige of old disagreements had been removed, and the American Medical Association was ready to give a hearty welcome to the many New York medical men present at this meeting.

The speaker called attention to the fact that a spirit of contention had recently been aroused because of the action of the Council of Pharmacy and Chemistry in excluding from the advertising pages of the *Journal of the American Association* all preparations that were not accompanied by an accurate formula of their composition. This had aroused opposition from the manufacturers of proprietary medicines, and something of a personal character had been injected into the discussions, the name of Dr. Simmons having been especially drawn down because of his fulfilment of his simple duty as editor of the journal. It had been asserted broadcast that a clique, or ring, was dominating the affairs of the association, and Dr. McMurtry wished to call special attention to the fact that nothing was being done except by the authority of the House of Delegates and with its entire approval. If there was anything irregular in the conduct of affairs, the House of Delegates was responsible and should proceed to do its duty in the matter, for at present it was clear that Dr. Simmons and that other faithful official of the association, Dr. McCormack, of Kentucky, whose work in organization had been the subject of criticism from certain quarters, were only accomplishing the duties allotted to them.

The time was then taken up with the reports of officials and committees of the association, of which the following were of special interest:

The Secretary's Report.—Dr. GEORGE H. SIMMONS, of Chicago, read his report as secretary of the asso-



Public Library.

ciation, in which he announced that there had been a most satisfactory gain in the number of the membership. During the year 4,351 new members had been enrolled, making the total membership 23,636. The prospects for further gains of membership in the immediate future were most encouraging, as the work of organization of the profession was proceeding very satisfactorily.

Report of the Chairman of the Board of Trustees.—Dr. T. J. HAPPELL, of Tennessee, the chairman of the board of trustees, announced the net assets of the asso-

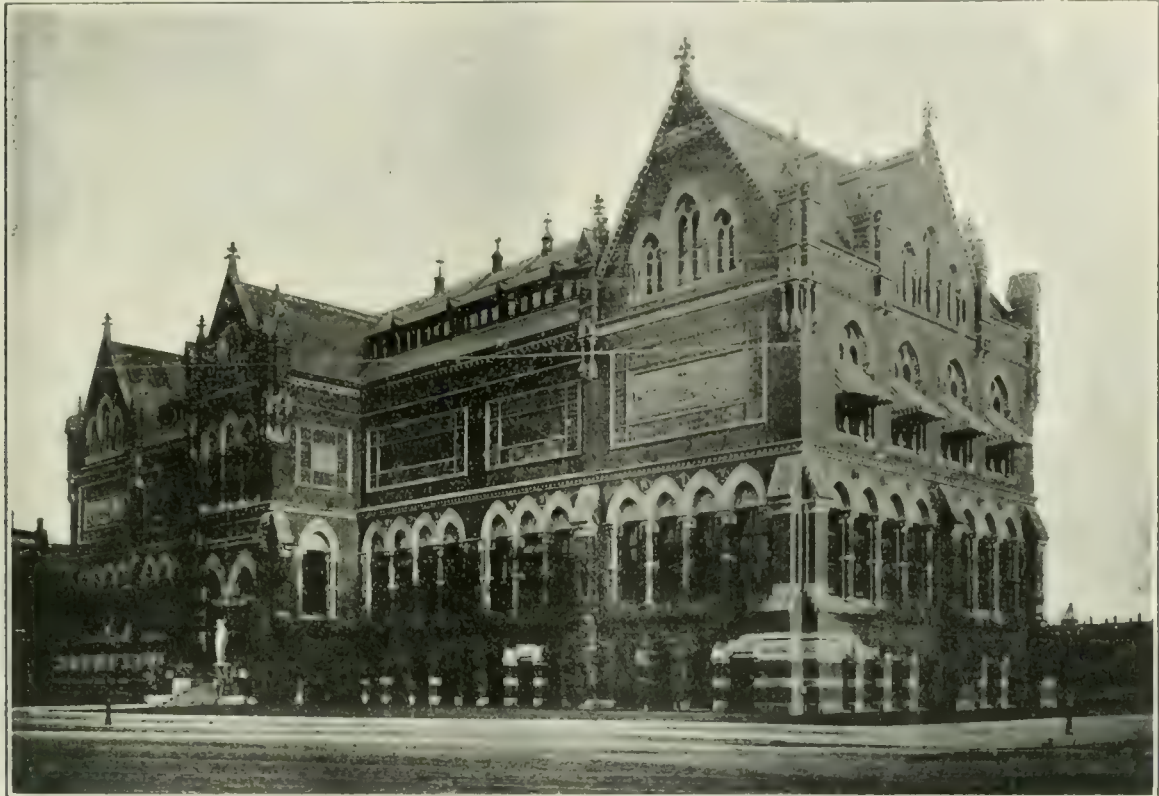
ciation as nearly \$238,000. The income from all sources for the past year had been about \$275,000. The total expenses for the year had been approximately \$250,000, leaving a net annual income of about \$25,000 in round numbers. This was a most satisfactory state of affairs and indicated that the association was now established on a firm business basis. At the present moment the debt of the association was somewhat less than \$10,000, while the total assets were very nearly \$247,500.

Medical Legislation.—Dr. C. A. L. REED, of Cincinnati, then read the report of the Committee on Medical Legislation, the main features of which were the recommendation of an appropriation to defray the expenses incident to formulating a bill for a department of public health and an appropriation of \$2,000 for the current expenses of the committee. It was reported, with regard to the organization of a bureau of

SECOND DAY

The Incoming President.—Dr. WILLIAM J. MAYO, of Minnesota, who had been installed as president of the association at the general meeting, took the chair when the House of Delegates convened on Tuesday afternoon.

The Walter Reed Monument Fund.—Dr. W. W. KEEN, of Philadelphia, unavoidably absent, sent the report of the committee. It declared that altogether over \$19,700 was in hand and \$1,200 additional subscribed. Of this, less than \$1,000 had come from towns that were saved from the danger of yellow fever for all time by Dr. Reed's work. Only \$25 came from Cuba, for which his investigations meant so much that was already effected. Most of the money came from physicians, less than half having been contributed by



Museum of Fine Arts.

medical legislation, to be established in connection with the association's office in Chicago, that the work had not as yet been accomplished, but there was no doubt of its desirability, and the House of Delegates was asked to continue its permission and encourage in every way the process of organization. Dr. Reed dwelt on the need of a medical legislation bureau as exemplified by recent developments with regard to neglect of precautions in the preparation of meats for sale.

Reciprocity in Medical Licensure.—Dr. W. L. RADMAN, of Philadelphia, recalled the necessity for uniformity of license granting in the several States, and suggested that this could only be brought about by the cooperation of many factors. National control would solve the problem, but it seemed hopeless to look for it as yet. He said that all States should recognize army and navy and other public service medical commissions, and recommended that the Council on Medical Education should be given the power, after due consideration of a candidate's ability and moral character, to recommend him for license to practice anywhere in the Union.

merchants and others, though Dr. Reed's discoveries meant so much for commerce.

The committee asked to be discharged, and it was so ordered.

The Committee on Organization.—Dr. J. W. McCORMACK, of Bowling Green, Ky., reported progress in organization. Two phases of the work were of special interest. First, he had found that wherever the medical profession was well organized it was easy to have the laity take an interest in public hygienic measures and to bring about amelioration of sanitary conditions. Second, the public could thus be brought to realize that every interest of the medical profession and its organization was theirs. Another phase of organization was that of postgraduate study in connection with county medical society work, and that had been brought into activity in many parts. The vital element in organization was the securing of interest in the county society, and study, he declared, was a factor of prime importance in this matter.

Amendments to the Constitution and By Laws.—One amendment, proposed two years ago and adopted last

year, was modified so as to make it possible for the board of trustees, by a unanimous vote, to change the place of meeting determined upon by the House of Delegates if it seemed advisable because satisfactory arrangements for transportation or accommodation could not be secured, provided the change was made at least four months before the time selected for the meeting.

The by laws were amended so that each section should vote for a representative in the House of Delegates and an alternate, the latter to serve in case of the representative's absence. These delegates and the delegates from the army and navy and marine hospital services were to hold office but for one year.

An amendment was also adopted permitting commissioned medical officers in the government services of the United States to become members without paying dues. Such members should not receive the journal, which was already furnished to them by the government, unless they wished it, when they must pay like ordinary subscribers.

Report on the Scientific Exhibit.—Dr. WYNN, of Indianapolis, gave an account of the rise of the pathological exhibit first made at the Atlantic City meeting in 1900 until now it has become an important and extremely instructive adjunct of the yearly meeting. As a result of its success, museums had been established by many State and county medical organizations in various places throughout the country, and even the national tuberculosis exhibition seemed to have been suggested by it. The possibility of further development of the education of the people in preventive medicine by such means was pointed out.

Presentation of a Loving Cup.—Dr. HAPPEL, of Tennessee, then presented to Dr. Wynn, on the part of the board of trustees, a loving cup as a mark of appreciation of the work he had so well done in making this part of the annual meeting such a pronounced success. Dr. Wynn had been ready to pay the expenses of the first exhibit if the board of trustees had not been willing to reimburse him, and the board felt that such unselfish work for the medical profession deserved special recognition, and presented the loving cup to Dr. Wynn with the hope that it would be an heirloom in his family.

Dr. Wynn disclaimed the idea that all the merit should be thought to belong to him. He had only been, he declared, the leaven in the mass of good wheat. He named many men in many cities who had done much to make the yearly exhibits a success.

Calling of the Roll of House of Delegates.—As the result of a recommendation of the committee reporting the meetings, it was resolved that the roll of delegates present at the meetings must henceforth be called and records kept.

Recommendations of the Committee on Reports of Officers.—Dr. PHILIP MILLS JONES, of San Francisco, in his report, discussed the status of affairs within the American Medical Association with reference to certain complaints and many discussions, and made the following recommendations: In view of the magnificent work done by Dr. Simmons and Dr. McCormack in their official capacities, votes of thanks to them were passed unanimously as an endorsement of their work.

It was recommended that the trustees of the association should be nominated orally and voted on separately.

It was recommended that the members of the association should faithfully support such medical journals, owned or edited by physicians in good standing, as were honorably trying to advance, as they had done so well in the past, the cause of medical science and were not supported by unethical advertising or receiving aid from interests inimical to the medical profession.

It was recommended that a brick vault be constructed

in the basement of the association's building in Chicago, to contain all papers of importance relating to the association, and especially all such as referred to licenses to practice medicine. The collection in this line made from California for the proposed directory now enabled the California State Medical Society to reconstruct its lists, a thing otherwise impossible, since all the documents had been destroyed on the coast.

A Proposed Investigation of the Association's Affairs.—Dr. H. O. WALKER, of Detroit, offered the following communication:

"Mr. Chairman: Since the address of our worthy president of yesterday indicated the sentiment of uncertainty and distrust relating to the management of our *Journal* and sundry other matters, we naturally feel that these criticisms are both unjust and unfair, and yet every effort should be made to dissipate this feeling, at least from the minds of the members of this association.

"Therefore, Mr. Chairman, I beg leave to offer the following preamble and resolutions:

"*Whereas*, The membership of the American Medical Association, numbering 19,285, is scattered throughout all the States and Territories.

"*Whereas*, The affairs of the association are so intricate that it is difficult to make them clear to all. Because of these facts, there has arisen the sentiment which bids fair to become disagreeably large, unless the causes upon which it feeds be removed, viz., ignorance of the real truth.

"Therefore, be it *Resolved*, That a committee of five, namely, G. Frank Lydston, of Chicago; Frederick Holme Wiggin, of New York; A. H. Cordier, of Kansas City, Mo.; Duncan S. Eve, of Nashville, Tenn.; and D. W. Graham, of Chicago, be appointed by the House of Delegates of the American Medical Association and instructed: First, to make an exhaustive study of the affairs of the association, its *Journal*, etc. Second, to employ an auditing expert to go over all the books of the association; to have power to summon officers and employees of the association before it; to give needful testimony; and in such other ways as it may deem best to secure all facts necessary for such independent report as may be needful to accomplish its purpose.

"*Resolved*, That a sum of money be appropriated sufficient to defray the actual expenses of this study.

"*Resolved*, That this committee report to the House of Delegates at their next meeting, in 1907."

On motion, the resolutions were laid on the table.

A Resolution of Thanks to the Council on Chemistry and Pharmacy was unanimously voted for its work in reference to the nostrum evil, for the obtaining of such valuable information with regard to remedies, and for its publication for the benefit of members.

THIRD DAY.

Dr. KENNETH MACKENZIE, of Portland, Ore., in the Chair.

The Insurance Question.—The matter of the relation of the insurance companies of the country to the medical profession was, after a resolution of Dr. J. N. McCormack, of Bowling Green, Ky., referred to the committee on miscellaneous business, which reported a resolution appointing five members as a committee to consider all the questions relating to insurance matters and their adjudication, so that the rights and dignity of the profession should be maintained.

The Postal Difficulties of the Journal.—The committee on amendments of the by laws suggested that the board of trustees be allowed, on unanimous vote, so to change the reception of the dues of members as to set aside a definite portion for the subscription to the *Journal*, in order that the postal authorities might be satis-

fied that they were bona fide subscribers. This method of procedure had been found sufficient in certain State societies with regard to the State journals. The resolution was unanimously adopted.

A San Francisco Contribution. It was voted that the board of trustees be empowered to send \$5,000 from



Old Corner Bookstore.

the funds of the association to the committee of the physicians of San Francisco for the relief of reputable physicians who had suffered so severely from the recent earthquake as to need aid. A resolution was also adopted remitting the dues for the next year of all members of the association in the stricken district.

Selection of Orators.—A resolution of amendment to the by laws was adopted placing the selection of the members to deliver the annual orations in medicine, surgery, and State medicine in the hands of the sections in medicine, in anatomy and surgery, and in hygiene and State medicine. The selections were to be made at the meeting of the year previous to the delivery of the orations. This resolution was not to go into effect until after the present meeting.

The following officers were elected:

President, Dr. Joseph D. Bryant, New York.

Vice-presidents, Dr. Herbert L. Burrell, Boston; Dr. Andrew C. Smith, Portland, Ore.; Dr. E. S. Fairchild, Des Moines, Ia.; Dr. W. S. Foster, Pittsburgh, Pa.

Treasurer, Dr. Frank Billings, Chicago, Ill.

Secretary, Dr. George H. Simmons, Chicago, Ill.

Resident trustee, Dr. M. L. Harris, Chicago, Ill.

Trustees, Dr. W. H. Welch, Baltimore, Md.; Dr. Miles M. Porter, Fort Wayne, Ind.

The meeting place for the next annual session is Atlantic City, N. J.

COINCIDENT MEETINGS.

The meeting of the American Medical Association, bringing together as it does a large number of physicians from all sections of the United States, has been made the occasion for holding meetings of a score of other unrelated bodies, whose members are also members of the American Medical Association. The transactions of many of these organizations are of general interest, but for lack of space we can only refer

briefly to a few of them below, not even giving the programmes in full:

THE AMERICAN ACADEMY OF MEDICINE.

The thirty-first annual meeting of this body was held at the Hotel Brunswick on June 2nd and 4th. The sessions were presided over by Dr. Donly C. Hawley, of Burlington, Vt., the president of the academy.

A report was received from the committee appointed to investigate the comparative value of the first degree in American colleges, this being the second report, and dealing with the present required qualifications and some scholastic irregularities growing therefrom.

The committee to investigate the teaching of hygiene in public schools made a third partial report covering the present teaching of hygiene through physical training and medical inspection.

The following papers were presented and discussed during the sessions of the academy:

Senility, by Dr. A. L. Benedict, of Buffalo; Manual Training for Medical Students and the Principles of Psychotherapy, by Dr. Gershom H. Hill, of Des Moines, Iowa; Medical History, by Dr. James A. Spalding, of Portland, Me.; The Standing of the Medical Man in Panama, by Dr. Charles L. Phillips, of Ancon Hospital, Panama. A Symposium on the question of "How the Medical and Teaching Professions May Co-operate to Improve the Moral, Mental, and Physical Condition of the Young," was participated in by Dr. S. A. Knopf, of New York; Dr. Dudley A. Sargent, of Harvard University; Dr. M. T. E. Groszmann, Plainfield, N. J.; Dr. Casey A. Wood, Chicago; President G. Stanley Hall, of Clark University; Dr. William T. Smith, of Dartmouth College; Dr. Augustus P. Clarke, of Cambridge, Mass.; Dr. L. Duncan Bulkley, of New York;



Old State House.

Dr. Edward Cowles, of McLean Hospital, Waverly, Mass.; Dr. W. T. Herdman, of the University of Michigan; and Dr. G. V. N. Dearborn, of Tufts College.

The following officers were elected for the ensuing year: President, Dr. Casey A. Wood, of Chicago; vice-presidents, Dr. W. L. Estes, of South Bethlehem, Pa.;

Dr. James A. Spalding, of Portland, Me.; Dr. Woods Hutchinson, of Redlands, Cal.; and Dr. Guy Hinsdale, of Hot Springs, Va.; secretary-treasurer, Dr. Charles McIntire, of Easton, Pa.; assistant secretary, Dr. Alex R. Craig, of Columbia, Pa. Dr. F. Frendenberg, of Leipzig, Germany, was elected an honorary member of the academy.

THE AMERICAN UROLOGICAL ASSOCIATION.

The fifth annual meeting of the American Urological Association was held at Boston on June 4th and 5th, the first three sessions being held in Chickering Hall and the final session being held in the Harvard Medical School buildings. The proceedings were presided over by Dr. Ferd C. Valentine, of New York, president of the association. The by laws were so amended as to provide for the establishment of various local sections of the association, with the understanding that the general association should be involved in any expenditures on account of the local branches.

The programme included some 46 papers, covering a wide variety of topics within the domain of urology. Among the authors presenting papers were:

Dr. Ernesto Blasucci, New York; Dr. Follen Cabot, New York; Dr. W. K. Otis, New York; Dr. Winfield Ayres, New York; Dr. Louis Heitzman, New York; Dr. C. G. Cumston, Boston; Dr. A. L. Chute, Boston; Dr. John W. Keefe, Providence; Dr. I. N. Danforth, Chicago; Dr. D. N. Eisendrath, Chicago; Dr. A. Ravogli, Cincinnati; Dr. George Goodfellow, San Francisco; Dr. Richard H. Gibbons, New York; Dr. A. H. Goelet, New York; Dr. J. B. Bissell, New York; Dr. S. L. Elsner, Rochester, N. Y.; Dr. R. T. Morris, New York; Dr. W. P. Manton, Detroit; Dr. D. E. Wheeler, Buffalo, N. Y.; Dr. G. F. Lydston, Chicago; Dr. William C. Quimby, Boston; Dr. C. M. Whitney, Boston; Mr. E. Hurry Fenwick, F.R.C.S., London; Dr. A. E. Gallant, New York; Dr. F. M. Johnson, Boston; Dr. Brans-

ford Lewis, St. Louis; Dr. C. S. Stern, Hartford, Conn.; Dr. R. F. O'Neil, Boston; Dr. F. R. Sturgis, New York; Dr. W. T. Belfield, Chicago; Dr. H. H. Young, Baltimore; Dr. R. C. Bryan, Richmond, Va.; Dr. J. P. Tuttle, New York; Dr. Eugene Fuller, New York; Dr. Guy Hunner, Baltimore; Dr. J. R. Eastman, Indianapolis; Dr. Edgar Garceau, Boston; Dr. F. R. Hagner, Washington; Dr. G. S. Whiteside, Portland, Ore.; Dr. G. Morgan Muren, Brooklyn, N. Y.; Dr. G. K. Swinburne, New York; Dr. G. De Santos Saxe, New York; Dr. Heinrich Stern, New York; Dr. F. J. Cotton, Boston; Dr. J. Leland Boogher, St. Louis; Dr. Carl Beck, New York; Dr. R. G. Herbst, Chicago; and Dr. M. L. Heidingsfeld, Cincinnati.

The following officers were elected for the ensuing year: President, Dr. Bransford Lewis, of St. Louis; secretary, Dr. Hugh Cabot, of Boston; and treasurer, Dr. F. R. Hagner, of Washington.

THE AMERICAN MEDICAL EDITORS' ASSOCIATION.

The thirty-eighth annual meeting of the American Medical Editors' Association was convened at the Copley Square Hotel, Boston, on the morning of June 4th, by the president, Dr. HENRY WALDO COE, of Portland, Oregon.

The report of the secretary-treasurer, Dr. JOSEPH MACDONALD, JR., showed the addition to the membership during that year, making a total membership of one hundred and forty-five, representing ninety-two of the leading medical journals of the United States. Various changes in the by laws of the association were agreed upon.

Dr. FRANK P. FOSTER, of New York, presented a paper on The Repeater in Medical Literature, in which he brought out the fact that, either through ignorance of the proper mode of procedure or through an undue desire for publicity, many medical writers placed themselves on an unenviable light by seeking to secure



Revere House.

simultaneous publication of their contributions in several different journals. He advocated concerted action on the part of medical editors looking toward the elimination of "the repeater" from current medical literature.

Dr. W. C. ABBOTT, of Chicago, made a plea on behalf of the advertiser of proprietary preparations. He said:

"It has become the fashion in these strenuous days to say uncomplimentary things about the advertiser. No doubt he deserves some of the reproaches which are being heaped upon him, for he must make good. Is this not true also of the religious leader, the social reformer, and the scientist? To be sure it is. . . .

"There is not a particle of doubt that there are many excellent remedies all about us which have been neglected or never discovered because no one has ever taken time or spent money to investigate them thoroughly. This means advertising.

"How far will the one sided, hysterical critic go along these lines? How much is he himself doing without hope of reward? What does a physician or surgeon do who has discovered a new bacterium, a new method of operating, no better perhaps, nor no worse than others? He advertises it. . . .

"It would be unfair to the manufacturers to demand of them qualitative and quantitative statements regarding every ingredient, together with detailed method of manufacture. What incentive would there be for any one to build laboratories, to spend time, labor and money, if, after discovering something valuable, he was compelled to disclose it, according to the provisions of the proposed legislation, to have the product at once pirated and imitated by persons who have nothing at stake and no financial interests and who could afford to sell the product at lower prices than the originator?

"The physician must know what he is giving the patient, but he does not care for unimportant details which give the product individuality.

"Must the formula be printed with the advertising each and every time? Not at all. This absurd demand could have originated only in the brain of an overzealous, perhaps crack brained reformer. Let the honest advertiser, be he proprietary man or otherwise, stand for his rights, as he surely will! Let the fair, square journal support them all as it should, and as we will (cheers), and out of all this should come good for the worthy advertiser, and condemnation and disaster for the fraud and fakir, and a final solution on the right lines of many of the problems which now perplex us."

A paper, by Dr. KENNETH W. MILLICAN, of St. Louis, dealt with the same subject in a different manner. Dr. Millican, among other things, said:

"What should be insisted on in the advertising world is that the advertising should be honest. I cannot join in this outcry which has been raised against patent medicine advertising. The spirit of commercialism is rampant and it must be regarded by the journals. When those ends are sought honestly they are proper enough. The aim of professional men is rendering service, and any reasonable means to that end is proper. There is no sound reason why physicians should oppose advertising."

Dr. JAMES E. PILCHER, of Carlisle, Pa., read a paper in which he classified and defined medical editors, and drew the following conclusions:

"We conclude, then (1), that while medical journalism, as a prop to practice and a bridge over the impetuosity of early professional years, may be of some advantage to the profession, as well as to the temporary editor; (2) that while medical journalism for the purpose of developing special lines of professional and mercantile work may be of much service to many of the

profession; and (3) while there are a small number of men who possess the exceptional executive and literary ability necessary to conduct professional and editorial work at the same time—the medical journalism of the twentieth century increasingly demands the whole intellectual and physical energy of its editorial conductors, in the presence of the great aggregation of professional atoms which is daily falling upon the professional field to be excavated and investigated; and the clearing away of which, for the benefit of the twentieth century practitioner, will demand the entire absorption of the mind, soul, and body of the conscientious medical editor who really desires to be a helper to the profession and a leader in the medical work of the age."

Dr. WILLIAM J. ROBINSON, of New York; Dr. T. D. CROTHERS, of Hartford; Dr. JOHN PUNTON, of New Haven; and Dr. CHARLES WOOD FASSETT, of St. Joseph, also presented papers.

In the evening the members of the association held their annual banquet at the University Club, about eighty members present.

Dr. Henry Waldo Coe, president, was toastmaster. The speakers included Surgeon General Walter Wyman, of the United States Public Health and Marine Hospital Service; Major Jefferson Randolph Kean, of the army; Dr. George B. Shattuck, of Boston; Dr. Henry O. Marcy, of Boston; Dr. Frank P. Foster, of New York; Dr. Andrew C. Smith, of Portland, Ore.; Dr. Carlos F. MacDonald, of New York; and Dr. Britton D. Evans, of Morris Plains, N. J.

Dr. James Evelyn Pilcher, of Carlisle, Pa., was elected president; Dr. Frank P. Foster, of New York, first vice-president; Dr. Charles F. Taylor, of Philadelphia, second vice-president; and Dr. Joseph MacDonald, Jr., of New York, secretary and treasurer.

THE NATIONAL CONFEDERATION OF STATE MEDICAL EXAMINING AND LICENSING BOARDS.

The sixteenth annual convention of this confederation was held in the rooms of the Massachusetts board, in the State House, on Monday, June 4th. Probably the most important paper presented was that by Dr. Edwin B. Harvey, of Boston, setting forth the impracticability of interstate reciprocity. This postulate was combated vigorously by Dr. William Warren Potter, of Buffalo, and Dr. Charles S. Wheelock, of Albany. Other important papers presented treated of a curriculum for the medical degree by Dr. Charles S. Wheelock, of Albany, and one for the State board and the diploma by Dr. Murray Gault Motter, of Washington. Dr. A. Ravogli, of Cincinnati, presented a paper on the teaching of anatomy, physiology, and chemistry as applied to medicine. The following officers were elected for the ensuing year: President, Dr. Edward B. Harvey, of Boston; vice-president, Dr. A. Walter Suter, of Herkimer, N. Y.; and Dr. George W. Webster, of Chicago; secretary and treasurer, Dr. Murray Gault Motter, of Washington.

Venereal Prophylaxis.—Albert E. Carrier says in the *Journal of the Michigan State Medical Society* that venereal diseases exist in every community to such an extent that an imperative demand is made for prophylaxis. While legal restrictions are of immense value their enforcement at the present time is impossible. The laws regarding the issuing of the marriage license should take account of venereal diseases. Venereal diseases should be regarded in fact contagious, and reportable to health boards. Hospital accommodation should be furnished for those suffering from venereal diseases. Our efforts for the present should be along the line of education in the family, in the schools, and by literature, and lectures to the public.

News Items.

NEW YORK CITY AND STATE

Change of Address.—Dr. John A. Wyeth, to 244 Lexington Avenue.

Personal.—Dr. Frank McMorrow, of Syracuse, has been bequeathed the medical library of Dr. George Ray Hoff, of Utica, who died on April 24, 1906.

The West Side Clinical Society of New York will meet at the residence of Dr. Z. L. Leonard, 19 West One Hundred and Twentieth Street, on the evening of June 14th. Dr. J. C. Taylor will read a paper on Indications for and Technics of Vaginal Hysterectomy.

The Elmira Academy of Medicine.—The following programme was arranged for a meeting, held on Wednesday, June 6th: Jaundice, by Dr. R. P. Bush, Horseheads, N. Y.; Management of Breech Presentations, by Dr. J. A. Robinson, Elmira, N. Y.; Mucoid Enteritis, by Dr. F. W. Ross, Elmira, N. Y.; Albuminuric Retinitis, with Report of Case, by Dr. S. M. Seafuse, Elmira, N. Y.

The Chautauqua County (N. Y.) Medical Association.—A meeting of this society was held at Bemus Point, on Lake Chautauqua, on Tuesday, May 29th, the president, Dr. V. D. Bozovsky in the chair. The programme included papers by Dr. A. Wilson Dods, of Fredonia; Dr. J. H. Sackirder, of East Randolph; Dr. N. E. Beardsley, and Dr. Joseph Rieger, of Dunkirk. The attendance numbered about fifty members. The sum of \$50 was voted in aid of San Francisco physicians, and a purse of \$21 additional was made up by the members of the society for the same purpose.

The Medical Association of the Greater City of New York will hold its next meeting at the New York Academy of Medicine, on Monday, June 11th. The following is the order of exercises: Lupulin in the Treatment of Gastro-intestinal Diseases, by Dr. Heinrich Stern; Some Remarks on the Relations of the Gastrointestinal Diseases to Nervous and Mental Diseases, by Dr. Robert Coleman Kemp; Appendicostomy for the Relief of Chronic Diarrhoea, Report of Nine Cases, by Dr. Samuel G. Gant; Discussion by Dr. William H. Thompson, Dr. Achilles Rose, Dr. Edward Waitzfelder, Dr. Warren Stone Bickham.

The Eastern Medical Society of the City of New York.—The following programme has been arranged for the next regular meeting of the society, to be held at the Young Men's Benevolent building, 311 East Broadway, on Wednesday evening, June 13th, at 8:30 p. m.: Presentation of Cases of Gonorrhoeal Exostosis, by Dr. C. H. Jaeger; Cases Representing Syphilis in Social Life, by Dr. Boselaw Lapowski; Symposium on Gonococcal Infection: Sociological Aspects, by Dr. Prince A. Morrow; The Permanent Curability of Gonococcal Infection in the Male, by Dr. Robert W. Taylor; The Permanent Curability of Gonococcal Infection in the Female, by Professor Alfred Dührssen, of Berlin. Discussion by Dr. J. Riddle Goffe, Dr. Egbert LeFevre, Dr. E. H. Grandin, Dr. Ludwig Wiese, Dr. L. J. Ladinski, Dr. H. Goldenberg, Dr. A. Sturmdorf, Dr. S. W. Bandler, and others.

Civil Service Examinations for the State and County Service.—The State Civil Service Commission will hold examinations in all parts of the State, June 30, 1906, for the following positions: Head teacher, State School for the Blind, \$600 to \$900 and maintenance; health officer, town of Minerva, Essex County; orderly, Erie County Hospital, \$540 and maintenance; physician, State hospitals and institutions, \$900 to \$1,200 and maintenance; pupil nurse, Erie County Hospital. The last day for filing applications for these positions is June 25th. The commission has been unable to secure a sufficient number of eligibles for orderly or physician, and qualified applicants for these positions have an excellent chance of appointment. Full information and application forms for any of the examinations may be obtained by addressing Charles S. Fowler, chief examiner of the commission at Albany.

The Queens-Nassau Counties (N. Y.) Medical Society held its annual meeting at Mineola, on Tuesday, May 29th. Nine physicians were elected to membership. The by-laws of the society were amended, to take effect January 1, 1907, increasing the annual dues to \$2, and the compensation of the secretary-treasurer to \$100 per annum. The election of officers resulted as follows: President, Dr. Irving F. Barnes, Oyster Bay; vice-president, Dr. John H. Barry, Long Island

City; secretary-treasurer, Dr. James S. Cooley, Glen Cove; censors, Dr. H. A. Houghton, Bayside; Dr. George W. Fuller, Oyster Bay; Dr. Samuel Hendrickson, Jamaica; Dr. P. H. Bumster, Long Island City; and Dr. Arthur D. Jacques, Lynbrook; delegates for one year to the State medical society, Dr. L. N. Lanehart, Hempstead; Dr. W. J. Burnett, Long Island City; delegates for two years, Dr. C. M. Neisley, Manhasset; Dr. Henry MacDonald, Morris Park; Dr. R. F. Macfarlane, Long Island City; delegate to second district branch, Dr. John Ordronaux, Roslyn. The programme prepared for the scientific session of the society was as follows: Perforating Ulcer of the Duodenum, by Dr. Carl Boettiger, Long Island City; The Surgical Treatment of Indigestion, by Dr. E. S. McSweeney, of New York; Ocular Complications of Diabetes, Treatment of Ocular Complications of Syphilis, by Dr. Richard Kalish, of New York. According to the treasurer's report the finances of the society were in a satisfactory condition and the sum of \$15 was contributed to the San Francisco relief fund. The semi-annual meeting of the society will be held at Long Island City on the last Tuesday of November, 1906.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Health Department, for the following statement of new cases and deaths reported for the two weeks ending June 2, 1906:

| | June 2. | | May 26. | |
|-------------------------------|---------|---------|---------|---------|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever..... | 25 | 6 | 37 | 9 |
| Smallpox | 10 | 3 | 2 | .. |
| Varicella | 85 | 1 | 111 | .. |
| Measles | 931 | 38 | 1,111 | 35 |
| Scarlet fever..... | 192 | 18 | 219 | 31 |
| Whooping cough..... | 49 | 6 | 38 | 7 |
| Diphtheria | 347 | 57 | 378 | 46 |
| Tuberculosis pulmonalis..... | 351 | 179 | 404 | 184 |
| Cerebrospinal meningitis..... | 22 | 17 | 35 | 23 |
| Totals..... | 2,012 | 325 | 2,335 | 335 |

Society Meetings for the Coming Week:

MONDAY, June 11th.—New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medicohistorical Society (private); New York Ophthalmological Society (private); Medical Association of the Greater City of New York; Society of Medical Jurisprudence, New York; Gynecological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Corning, N. Y., Medical Association.

TUESDAY, June 12th.—New York Academy of Medicine (Section in Genitourinary Surgery); New York Medical Union (private); Buffalo Academy of Medicine (Section in Medicine); Kings County, N. Y., Medical Association; Rome, N. Y., Medical Society; Medical Society of the County of Rensselaer, N. Y.; Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association; Clinical Society of the Elizabeth, N. J., General Hospital and Dispensary; Northwestern Medical Society of Philadelphia; Practitioners' Club, Richmond, Ky.; Richmond, Va., Academy of Medicine and Surgery.

WEDNESDAY, June 13th.—Medical Society of the Borough of the Bronx, New York; New York Pathological Society; American Microscopical Society of the City of New York; Society of the Alumni of the City (Charity) Hospital, New York; Society for Medical Progress, New York; Philadelphia County Medical Society; Lenox, Mass., Medical and Surgical Society (private).

THURSDAY, June 14th.—New York Academy of Medicine (Sections in Pediatrics and Otolaryngology); Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia; Church Hill Medical Society of Richmond, Va.

FRIDAY, June 15th.—New York Academy of Medicine (Section in Orthopaedic Surgery); New York East Side Physicians' Association; Manhattan Medical and Surgical Society (private); Clinical Society of the New York Post Graduate Medical School and Hospital; Baltimore Clinical Society; Chicago Gynecological Society.

PHILADELPHIA AND THE MIDDLE STATES.

Personal.—Dr. Herbert Fox has been elected director of the pathological laboratory of the Pennsylvania Zoological Society.

The Methodist Episcopal Hospital in Philadelphia intends to erect a building to be used as a children's ward and one to be used as an isolation ward.

Charitable Bequests.—By the will of Hannah Gorman the Little Sisters of the Poor, at Wilmington, Del., receive \$100; St. Joseph's Home for Homeless Boys receives \$50.

St. Agnes's Hospital, Philadelphia, opened a new wing with appropriate ceremonies on May 29th. It is purposed to devote one or more of the wards in the new building to the treatment of mental diseases.

The Forty-third Annual Commencement of the Philadelphia Dental College was held in the Lyric Theatre, Philadelphia, on May 31st. The address was made by Dr. S. H. Guilford.

The Philadelphia School for Nurses held its commencement exercises on May 25th. One hundred and forty women received the diploma of the school, which is a thoroughly theoretical school, giving its pupils no actual hospital experience.

The Harrisburg Academy of Medicine, at a meeting, held on May 25th, discussed the infectious diseases. The discussion was opened by Dr. Hugh Hamilton and continued by Dr. Charles A. Rahter, Dr. John W. Ellenberger, and Dr. John B. McAlister.

The Commencement Exercises of the Chester Hospital Training School for Nurses were held on May 24th. Dr. Joseph Price delivered the address. The following women composed the class: Emma Keating, Charlotte Williams, Katherine Mackay, Sarah Graham, Alice Barker, and Mary Barker.

The Commencement Exercises of the South Side Hospital Training School for Nurses (Pittsburgh, Pa.) were held on May 24th. The following women received the diploma of the school: Misses Florence Aby Blanchfield, of Orlando, Va.; Elsie Mariam McKallip, of Leechburg, and Edna Ardell Merrick, of Allegheny. The address was made by Dr. Samuel C. Milligan.

The City Hospital Training School for Nurses of Wilkes-Barre, Pa., held its commencement exercises on May 30th. Dr. Walter Lathrop, of Hazleton, Pa., made the address. The class was composed of Flora S. Hufford, Elida S. Barnes, Anna M. Hughes, Aurela Grossman, Jennie Spence, E. Evelyn Mann, Jennie E. Battenberg, Mabel Campbell Marcy, Blodwin Thomas, Martha Stowell Carey, Laura M. Geis, Margaret Flory Hughes, Ida J. Bray, Margaret Ohlmann, and Bertha M. Morgan.

Scientific Society Meetings in Philadelphia for the Week Ending June 16, 1906.—Monday, June 11th, Wills Hospital Ophthalmic Society. Tuesday, June 12th, Kensington Branch, Philadelphia County Medical Society; Botanical Section, Academy of Natural Sciences. Wednesday, June 13th, Philadelphia County Medical Society. Thursday, June 14th, Philadelphia Pathological Society. Friday, June 15th, West Philadelphia Branch, Philadelphia County Medical Society. Saturday, June 16th, West Philadelphia Medical Association.

Medico-Chirurgical College Class Day.—The senior class of the medical department of the Medico-Chirurgical College held class day exercises in the Broad Street Theatre on June 1st. Dr. Judson Daland and the president of the class, Dr. P. Henry Lane, made addresses. Other speakers on the programme included Dr. William Maurice, poem, "Decision"; Dr. Francois Theodore Gouaux, prophecy, and Dr. William Gilbert Tillman, history. Dr. J. Swain Irwin made the presentations, and Dr. E. Oscar Lindemuth was the valedictorian.

The Annual Banquet of the Alumni Association of the Jefferson Medical College was held at the Bellevue-Stratford Hotel on June 1st. A committee, of which Dr. Ward Brinton is chairman, was appointed to furnish relief to the graduates of Jefferson who were impoverished by the earthquake in California. Dr. George McClellan was toastmaster, and among the speakers were Dr. Edward C. Spitzka, William Bayard Hale, Dr. J. Harvey Buchanan, Dr. F. O. Lewis, and Dr. J. W. West. At the annual meeting of the association, held at the college at noon, the nomi-

nating committee reported the following officers for the ensuing year: President, Dr. W. M. L. Coplin; recording secretary, Dr. Charles S. Barnes; corresponding secretary, Dr. Aller G. Ellis; treasurer, Dr. Randle C. Rosenberger.

Inspection of Abattoirs in Philadelphia.—The exposure of the methods of slaughtering cattle and preparing food products has resulted in the beginning of a movement in Philadelphia to do away with unsanitary abattoirs. Dr. W. M. L. Coplin, director of the department of public health and charities, has started to tabulate the places within the jurisdiction of the city in which cattle, sheep, and hogs are slaughtered. It is hoped that some method may be devised by which all slaughtering shall be done under the supervision of trained inspectors.

The Philadelphia Jewish Hospital Association.—The forty-first annual meeting of the Jewish Hospital Association was held on May 27th. During the year 7,131 patients were treated. The following officers were elected: President, William B. Hackenburger; first vice-president, Judge Mayer Sulzberger; second vice-president, Isidore Langsdorf; third vice-president, Benjamin Wolf; treasurer, August B. Loeb; secretary, Henry N. Wessel; corresponding secretary, Arthur A. Fleisher; directors for three years, Henry Fernberger, Joseph N. Snellenburg, Louis Gerstley, Frank Kind.

The Commencement Exercises of the Jewish Hospital Training School for Nurses were held on May 29th. The following women received the diploma of the school: Miss Sarah Weinberger, Miss Mary B. Semmons, Miss Ella Virginia Fox, Miss Elizabeth H. Maneely, Ruth Hillyer, Virginia Syron, Helene Strauss, Henrietta C. Hieman, Marie R. Durr, and Josephine M. Chambers. Dr. Charles J. Hatfield delivered the address. The Matilda Kaufman gold medal for the highest general average was awarded to Miss Sarah Weinberger. The practical nursing prize of \$25 in gold for the best examination was awarded to Miss Mary B. Semmons.

The Health of Philadelphia.—During the week ending May 26, 1906, the following cases of transmissible diseases were reported to the Bureau of Health:

| | Cases. | Deaths. |
|--------------------------------|--------|---------|
| Typhoid fever..... | 255 | 33 |
| Scarlet fever..... | 45 | 3 |
| Chickenpox..... | 33 | 0 |
| Diphtheria..... | 81 | 11 |
| Cerebrospinal meningitis..... | 4 | 2 |
| Measles..... | 343 | 4 |
| Whooping cough..... | 68 | 5 |
| Tuberculosis of the lungs..... | 100 | 54 |
| Pneumonia..... | 59 | 53 |
| Erysipelas..... | 15 | 3 |
| Puerperal fever..... | 2 | 1 |
| German measles..... | 4 | 0 |
| Septicæmia..... | 1 | 0 |
| Mumps..... | 18 | 0 |
| Cancer..... | 19 | 29 |

The following deaths were recorded from other transmissible diseases: Tuberculosis, other than tuberculosis of the lungs, 6; diarrhoea and enteritis, under two years of age, 30. The total deaths numbered 519, in an estimated population of 1,469,123, corresponding to an annual death rate of 18.37 in 1,000 population. The total infant mortality was 123; under one year of age, 96; between one and two years of age, 27. There were 41 still births, 24 males and 17 females. No unusual meteorological phenomena were recorded by the weather bureau.

BOSTON AND NEW ENGLAND.

Change of Address.—Dr. Winfield Smith, to 107 Massachusetts Avenue, corner of Newbury Street, Boston, Mass.

The Norwich (Conn.) Medical Society held its twenty-eighth annual meeting on Monday, May 28th. Officers were elected as follows: President, Dr. Leonard B. Almy; vice-president, Dr. E. P. Brewer; secretary-treasurer, Dr. John H. Evans.

The Rhode Island Medical Society.—The ninety-fifth annual meeting was held at Providence, on Thursday, May 31st. Officers for the ensuing year were elected as follows: Dr. Christopher F. Barker, Newport, president; Dr. George S. Matthews, Providence, treasurer; Dr. Stephen A. Weir, Providence, secretary; Dr. George D. Hersey, librarian.

The Massachusetts Association of City Physicians held its annual meeting and banquet at the American House, Boston, on Tuesday, May 22nd. Officers were elected as follows: President, Dr. E. P. Gleason, Brockton; vice-president, Dr. C. C. Crane, Norwood; secretary, Dr. W. D. Mc-

Fee. Haverhill; treasurer, Dr. Daniel C. Rose, Stoughton; executive committee, Dr. H. C. Hallowell, Quincy; Dr. J. A. Morgan, Hyde Park, and Dr. F. E. Stone, Lynn.

The Connecticut River Valley Medical Association held its annual meeting at Bellows Falls, Vt., on May 22nd. The election of officers resulted as follows: President, Dr. J. S. Hill, Bellows Falls; vice-president, Dr. F. M. Dinsmore, Keene, N. H.; secretary, Dr. A. L. Miner, Bellows Falls; treasurer, Dr. E. R. Campbell, Bellows Falls. Papers were read and cases reported and discussed.

The American Medical Editors' Association held a very satisfactory annual meeting in Boston, on Monday, June 4th, under the presidency of Dr. Henry Waldo Coe, of Portland, Oregon. Officers for the ensuing year were elected as follows: President, Dr. James Evelyn Pilcher, of Carlisle, Pa.; vice-presidents, Dr. Frank P. Foster, of New York, and Dr. Charles F. Taylor, of Philadelphia; secretary and treasurer, Dr. Joseph McDonald, Jr., of New York. The success of the annual banquet, at the University Club, was largely due to the endeavors of Dr. Charles Greene Cumston, of Boston.

French Physicians of Rhode Island Organize a Society.—Practicing physicians of the French nationality from Providence, Pawtucket, Woonsocket, Central Falls, and Arctic Centre, to the number of about twenty-five, gathered at the Crown Hotel, Providence, on Thursday afternoon, May 31st, and formed a State association, electing officers and authorizing the executive committee to prepare a constitution and by-laws and take the necessary steps toward incorporation. The election of officers resulted as follows: First Honorary President, Dr. M. J. E. Legris, Arctic Centre; second honorary vice-president, Dr. J. E. V. Mathieu, Central Falls; active president, Dr. C. H. Boucher, Central Falls; first vice-president, Dr. J. C. Maranda, Woonsocket; second vice-president, Dr. Paul Denis, Arctic Centre; secretary, Dr. F. A. Ruest, Pawtucket; assistant secretary, Dr. Joseph Myre, Central Falls; treasurer, Dr. J. D. N. Dubeau, Providence; librarians, Dr. H. E. Potvin, Providence, and Dr. C. E. Scott, Warren. The officers embody an executive committee, which was authorized to look after the matter of by laws and incorporation.

BALTIMORE AND THE SOUTH

Personal.—Dr. W. B. Rogers has resigned as president of the Memphis, Tenn., board of health.

The State Board of Medical Examiners of North Carolina made public its report on May 30th. Of the 132 applicants for license to practice medicine in the State only 85 passed the examinations. Of these six were negroes.

Entrance Examinations for the Study of Medicine in Kentucky.—The State Board of Health of Kentucky, on recommendation of the deans of the medical colleges of that State, has decided to make the examinations for admission to the study of medicine correspond with those fixed by the American Association of Medical Colleges.

The Paducah (Ky.) Academy of Medicine.—Several physicians of Paducah met on the evening of May 24th, in the office of Dr. L. Lyne Smith, for the purpose of organizing an Academy of Medicine. The following officers were elected: President, Dr. Robert Hearne; vice-president, Dr. E. R. Earle; secretary, Dr. L. Lyne Smith; treasurer, Dr. L. E. Young; historian, Dr. C. E. Purcell.

The State Medical Association of Texas.—At the annual meeting, held at Fort Worth, on April 24th-26th, officers for the ensuing year were elected as follows: President, Dr. G. B. Foscoe, Waco; vice-presidents, Dr. F. P. Miller, Dr. D. S. Wier, Beaumont, and Dr. A. B. Small, Waxahachie; secretary, Dr. Q. C. Chase, Fort Worth; treasurer, Dr. R. F. Miller, Sherman. The next annual meeting will be held at Mineral Wells.

The Baltimore County (Md.) Medical Society.—This society held a meeting at Baltimore, on Thursday, May 17th, and elected officers as follows: President, Dr. James H. Jarrett, of Towson; vice-president, Dr. William S. Smith, of Baltimore; treasurer, Dr. Benjamin Whiteley, of Catonsville; recording secretary, Dr. N. R. D. Cox; corresponding secretary, Dr. R. C. Massenburg, of Towson. Dr. George H. Hocking, the retiring president, delivered the annual address and entertained the society at luncheon after the meeting.

The Medical Society of the State of North Carolina.—At the annual meeting, held at Charlotte, on Tuesday, Wednesday, and Thursday, May 20th, 30th, and 31st, the

election of officers resulted as follows: President, Dr. S. D. Booth, of Oxford; first vice-president, Dr. C. L. Strong, of Charlotte; second vice-president, Dr. J. E. McLaughlin, of Statesville; third vice-president, Dr. W. F. Hargrove, of Kinston; secretary, Dr. D. A. Stanton, of High Point; treasurer, Dr. H. McKee Tucker, of Raleigh. Morehead City was chosen as the place for the next annual meeting.

The Mortality of Baltimore.—The report of the health department for the week ending May 26th showed a total of 193 deaths, as compared with 153 during the corresponding week of last year, 194 in 1904, and 154 in 1903. The annual death rate in a thousand was: Whole, 17.15; white, 15.71; colored, 24.82. The principal causes of death were: Typhoid fever, 4; scarlet fever, 1; whooping cough, 5; diphtheria, 2; consumption, 28; cancer, 10; apoplexy, 8; organic heart disease, 10; bronchitis, 6; pneumonia, 16; Bright's disease, 16; congenital debility, 10; lack of care, 3; old age, 7; suicides, 2; accidents, etc., 12. The following cases of infectious diseases were reported this week: Diphtheria, 18; pseudomembranous croup, 1; scarlet fever, 13; typhoid fever, 25; measles, 25; whooping cough, 1; chickenpox, 2; consumption, 9. There were 47 cases of typhoid fever reported in the previous week.

CHICAGO AND THE WEST

The Physicians' Club of Escanaba (Mich.) is the name given to an organization formed on Tuesday, May 22, 1906. A schedule of fees was adopted and officers were elected as follows: President, Dr. A. F. Snyder; vice-president, Dr. H. B. Reynolds; secretary, Dr. H. W. Long; treasurer, Dr. John D. Groos.

The South Dakota State Medical Association.—At the annual meeting, held at Watertown, on May 22nd-24th, officers for the ensuing year were elected as follows: President, Dr. E. F. Ramsey, Clark; vice-president, Dr. G. J. Coller, Brookings; secretary, Dr. R. D. Alway, Aberdeen. Sioux Falls was selected for the place of meeting in 1907.

The Chickasaw Medical Association held its eleventh annual meeting at Madill, Indian Territory, during the week of May 26th. Officers were elected as follows: President of the association, Dr. Lindsey, of Paul's Valley; president of the section in surgery, Dr. Thomas A. Blaylock, of Madill; president of the section in medicine, Dr. Thomas S. Booth, of Ardmore. The next meeting will be held at Sulphur.

The Indiana State Medical Association.—At the annual meeting, held at Winona Lake, on May 23rd-25th, the following officers were elected for the ensuing year: President, Dr. George J. Cook, of Indianapolis; vice-presidents, Dr. J. B. Berteling, of South Bend, Dr. C. J. Chittick, of Frankfort; secretary, Dr. F. C. Heath, of Indianapolis; treasurer, Dr. A. E. Bulson, Jr., of Fort Wayne; delegates to the American Medical Association, Dr. J. B. Berteling and Dr. A. M. Hayden, of Evansville.

An Authors' Clinic on the Eye, Ear, Nose, and Throat.—At the meeting of the Illinois State Medical Society, held at Springfield, on May 15th, 16th, and 17th, a unique entertainment was given to those members interested in the eye, ear, nose, and throat. It was called an authors' clinic, and lasted three days, commencing Tuesday morning at the David Prince Sanitarium Wednesday morning at the St. John's Hospital, and later at the Springfield Hospital. The idea originated with an invitation extended to Dr. Otto Freer to demonstrate his operation of window resection for deflected septum, and grew into the conception of inviting other available authors. The clinical material was assigned to the hospitals, and the individual operator was notified of the time and place of his demonstration. When possible, operations were conducted in adjoining rooms, and on two occasions three operations were conducted simultaneously. About forty-five operations were performed during the meeting. Authors of operations who were invited were: Dr. Otto T. Freer, Chicago, window resection of septum; Dr. Frank Allport, Chicago, ptosis; Dr. Casey A. Wood, Chicago, excision of the tarsus for intractable trachoma; Dr. W. L. Ballinger, Chicago, enucleation of tonsil in its capsule; Dr. Charles Robertson, Chicago, tonsil excision; Dr. F. C. Hotz, Chicago, entropion; Dr. W. H. Wilder, Chicago, symblepharon; Dr. Baird, advancement of the rectus; Dr. E. Fletcher Ingals, Chicago, intranasal method for frontal sinusitis; Dr. Ostrum, septum deflection; Dr. A. E. Prince, Springfield, strabismus and nasal obstruction. Dr. Prince demonstrated his advancement operation, excision of the rectus for paralytic squint, and exercised a general management of the clinic.

The Tri State Medical Society of Iowa, Illinois, and Missouri.—The fourteenth annual meeting will be held at Galesburg, Illinois, on Tuesday and Wednesday, June 26 and 27, 1906. The programme includes the following titles: Fallacies Regarding the Regulation of Prostitution, Dr. Alfred De Roulet, Chicago, Ill.; Epilepsy, Dr. Marc Ray Hughes, St. Louis, Mo.; Phlebitis vs. Appendicitis, Dr. J. T. White, Freeport, Ill.; To Operate and Not to Operate in Appendicitis, Dr. J. J. Brownson, Dubuque, Ia.; Physiological Therapeutics of Hypertension and Hypotension, Dr. J. H. Kellogg, Battle Creek, Mich.; An Aztec Representation of Leprosy, Dr. A. H. Ohmann Dumesnil, St. Louis, Mo.; The Pilocarpine Group, Dr. W. F. Waugh, Chicago, Ill.; Two Cases of Brain Surgery, Dr. H. C. Mitchell, Carbondale, Ill.; Medicine: Its Dignity and Virtue, How Sustained, Dr. A. L. Glaze, Grayville, Ill.; Sudden Death During or Shortly After Parturition, Dr. Tinsley Brown, Hamilton, Mo. Symposium on Abdominal Surgery. Bile-Tract Adhesions, Dr. Robert T. Morris, New York city; Abdominal Operations Under Local Anæsthesia, Dr. T. C. Witherspoon, St. Louis, Mo.; Incising and Suturing the Liver, Dr. Jacob Frank, Chicago, Ill.; Surgical Treatment of Diffuse Peritonitis, with Report of Cases, Dr. John Young Brown, St. Louis, Mo.; The Relation of Traumatism to Misplacement of the Abdominal and Pelvic Viscera, Dr. Samuel Ayres, Kansas City, Mo.; Treatment of Acute Insanity in a General Hospital, Dr. Daniel R. Brower, Chicago, Ill.; Some Observations on General Paresis of the Insane in Women, Dr. Anne Burnett, Mt. Pleasant, Ia.; The Drug Treatment of Tuberculosis, Dr. George F. Butler, Chicago, Ill.; The Teaching of Hygiene, Dr. Jennie McCowen, Davenport, Ia.; Tumors of the Scrotum, Dr. D. W. Basham, Wichita, Kans.; The Clinical Value of Blood Examination, Dr. E. W. Meis, Carroll, Ia.; The Present Status of Electricity in Medicine, Dr. C. S. Neiswanger, Chicago, Ill.; Address: Abuse of Patent Medicine Whiskey by the Laity, Dr. C. F. Wahrer, Ft. Madison, Ia.; President's Address: Medical Evolution, Dr. Wallace C. Abbott, Chicago, Ill.; Personal (and Hearsay) Experiences with Proprietaries, Patents, and Consultants: Good, Bad, Indifferent, and "Not Worth a Damn," Dr. W. C. Ussery, Paris, Ky.; A Plea for a More Simple and Scientific Therapy, Dr. G. R. Neff, Farmington, Ia.; Membranous Enteritis, Dr. A. S. Burdick, Chicago, Ill.; The Surgical Treatment of Puerperal Pyæmia, Dr. C. N. Thienhaus, Milwaukee, Wis.; Enlarged Thyroid Complicating Pregnancy, Dr. Effie L. Lobdell, Chicago, Ill.; Modern Management of Summer Diarrheas of Childhood, Dr. W. L. Ellis, Grayville, Ill.; Cancer of the Uterus: Why Does the Surgeon Fail to Cure It? Dr. Emil Ries, Chicago, Ill.; Report of Progress in Ophthalmology, Dr. James Moores Ball, St. Louis, Mo.; Ulcer of Stomach, Dr. Carl Beck, Chicago, Ill.; When Shall We Operate for Infected Fallopian Tubes? Dr. Felix William Garcia, St. Louis, Mo.; A Study of the Results of Conservative Treatment of the Uterine Appendages, Dr. G. S. Newton, Chicago, Ill.; Does Conservatism Pay in the Treatment of Inflamed Uterus and Tubes, Dr. John C. Murphy, St. Louis, Mo.; A Gynæcological Talk with the General Practitioner, Dr. H. C. Crowell, Kansas City, Mo.; Some Uses of the Suprapubic Cannula, Dr. W. T. Belfield, Chicago, Ill.; Sigmoid and Mesosigmoid in 700 Autopsies, Dr. Byron Robinson, Chicago, Ill.; The Chemical Significance of Chronically Enlarged Tonsils, Dr. C. A. Boice, Washington, Ia.; Tuberculous Arthritis, Dr. Jacob Geiger, St. Joseph, Mo.; Contribution to the Significance of Vesical Symptoms in Diseases of the Pelvic Organs, Dr. F. Kreissl, Chicago, Ill.; Some Surgical Subjects, Dr. W. M. Harsha, Chicago, Ill.; Tonsillectomy by Electrocautery Dissection, Dr. Edwin Pynchon, Chicago, Ill.; Differential Diagnosis of Diseases of the Upper Urinary Tract, Dr. Ernest G. Mark, Kansas City, Mo.; Consideration of the Treatment of Prolapse of the Abdominal Viscera, Dr. Franklin H. Martin, Chicago, Ill.; Cardiopathies of the Fifth and Sixth Decennial Periods, Dr. J. M. Patton, Chicago, Ill.; The Use of the Dumbbell Device in Intestinal Anastomosis, Dr. J. B. Bacon, Macomb, Ill.; The Pneumococcus as a Cause of Single, Multiple, and General Infections, Dr. Mary S. Johnstone, Chicago, Ill.; Vaginal Section as an Operation of Choice, Dr. Henry T. Byford, Chicago, Ill.; Chronic Rheumatism—Its Metabolism and Therapy, Dr. R. W. Webster, Chicago, Ill.; How Does Surgery Cure Retrodeviations of the Uterus, Dr. Bertha Van Hoosen, Chicago, Ill.; The Status of Professional Knowledge of the Feeble Minded, Dr. W. H. C. Smith, Godfrey, Ill.; Recent Advances in Orthopædic Surgery, Dr.

J. H. Tanquary, St. Louis, Mo.; Massage, Baths, Suggestions, and Other Lines of Treatment Which Should be Rescued from the Quacks, Dr. P. W. Ransom, Rockford, Ill.; Modern Treatment of Diphtheria, Dr. J. S. Kauffman, Blue Island, Ill.; The Improved Technic of Cæsarean Section, Dr. Emory Lampar, St. Louis, Mo.

Statement of Mortality in Chicago for the Week Ending May 26, 1906, compared with the preceding week and with the corresponding week of 1905. Death rates computed on United States Census Bureau's figures of midyear populations—2,049,185 in 1906, and 1,999,750 for 1905.

| | May 26,
1906. | May 19,
1906. | May 27,
1905. |
|--------------------------------|------------------|------------------|------------------|
| Total deaths all causes | 580 | 652 | 454 |
| Annual death rate in 1,000 | 14.76 | 16.59 | 11.80 |
| Sexes | | | |
| Males | 332 | 362 | 266 |
| Females | 248 | 290 | 188 |
| Ages | | | |
| Under 1 year of age | 111 | 140 | 99 |
| Between 1 and 5 years of age | 48 | 64 | 35 |
| Between 5 and 20 years of age | 37 | 39 | 22 |
| Between 20 and 60 years of age | 271 | 281 | 196 |
| Over 60 years of age | 113 | 128 | 102 |
| Important causes of death | | | |
| Apoplexy | 12 | 13 | 12 |
| Bright's disease | 49 | 39 | 33 |
| Bronchitis | 10 | 13 | 11 |
| Consumption | 71 | 68 | 62 |
| Cancer | 26 | 32 | 28 |
| Convulsions | 4 | 7 | 11 |
| Diphtheria | 8 | 9 | 1 |
| Heart diseases | 43 | 41 | 43 |
| Influenza | 3 | 2 | 1 |
| Intestinal diseases, acute | 23 | 35 | 17 |
| Measles | 9 | 8 | 7 |
| Nervous diseases | 18 | 23 | 19 |
| Pneumonia | 99 | 138 | 48 |
| Scarlet fever | 10 | 10 | 0 |
| Suicide | 7 | 10 | 9 |
| Typhoid fever | 10 | 5 | 3 |
| Violence (other than suicide) | 40 | 48 | 33 |
| Whooping cough | 3 | 2 | 11 |
| All other causes | 135 | 149 | 105 |

The 580 deaths reported represent an annual rate of 14.76 in 1,000 of population, a reduction of a little more than 11 per cent. from that of the preceding week, but still an excess of 24 per cent. over the corresponding week of last year. As compared with the preceding week, there were 45 fewer deaths among children under 5 years of age and 15 fewer among persons over 60 years of age.

GENERAL.

The American Dermatological Association.—At the thirtieth annual meeting of this association, held at Cleveland, Ohio, May 31, and June 1 and 2, 1906, the following officers were elected for the ensuing year: President, Dr. Arthur Van Harlingen, of Philadelphia; vice-president, Dr. William A. Pusey, of Chicago; secretary and treasurer, Dr. Grover W. Wende, of Buffalo.

The American Surgical Association.—At the annual meeting, held at Cleveland, Ohio, on May 30 and 31, and June 1, 1906, officers for the ensuing year were elected as follows: President, Dr. Dudley P. Allen, Cleveland; vice-presidents, Dr. Thomas W. Huntington, San Francisco, and Dr. August F. Jonas, Omaha; secretary, Dr. Robert G. Le Conte, Philadelphia; recorder, Dr. Richard H. Haite, Philadelphia; treasurer, Dr. Charles A. Powers, Denver. The next meeting of the association will be held at Washington, D. C., in May, 1907.

Meetings of National and State Medical Associations During the Month of June, 1906, other than those that have taken place prior to June 9th:

NATIONAL.

American Medicopsychological Association, annual meeting at Boston, Mass., June 12th, 13th, 14th, and 15th.

American Laryngological, Rhinological and Otolological Society, annual meeting at Kansas City, Mo., June 11th, 12th, and 13th.

Tri-State Medical Society of Iowa, Illinois, and Missouri, annual meeting at Galesburg, Ill., June 26th.

STATE.

Maine Medical Association, annual meeting at Portland, June 13th, 14th, and 15th.

Massachusetts Medical Society, annual meeting at Boston, June 12th and 13th.

Minnesota State Medical Association, annual meeting at Minneapolis, June 20th.

West Virginia State Medical Association, annual meeting at Webster Springs, June 20th, 21st, and 22nd.

State Medical Society of Wisconsin, annual meeting at Milwaukee, June 27th, 28th, and 29th.

Pith of Current Literature.

AMERICAN JOURNAL OF SURGERY.

May, 1906.

1. Conservation in Postoperative Treatment,
By S. C. BEEDE.
2. Plaster of Paris and How to Use It, By M. W. WAIL.
3. Some Observations on Nephropexy,
By D. W. BASHAM.
4. Remarks on Renal Traumatism, By C. G. CUMSTON.
5. Hypertrophy of the Pharyngeal and Fauical Tonsils,
By F. C. RAYNOR.
6. Another Case of Gangrene of the Entire Colon,
By E. LAMPHEAR.
7. A Close Fitting Hip Splint Intended Especially for
Fracture, By J. P. HETHERINGTON.
8. Report of a Case of Hip Disease Simulating Malignant
Disease, By J. RIDLON.

3. **Nephropexy.**—Basham recalls that as this operation is performed in many instances the kidney is brought up from an unnatural position in the abdomen and suspended in an equally unnatural position from the side. If there are morbid conditions within the kidney they may be made worse by the operation. The rule should be that this operation should never be performed without at the same time doing everything possible to ascertain whether the organ is diseased. This means that the kidney should be delivered upon the back and carefully examined. A floating kidney may be simulated by a distended gallbladder, tumors of the colon, and parovarian cyst with a long pedicle. Operations for fixation of the kidney may be divided into those in which the fibrous capsule is split and used for attachment and those in which this is not done. In the former the parenchyma of the kidney may or may not be penetrated. When properly fixed the kidney should be anchored to the twelfth rib or to its peritoneum and to the fascia over the quadratus lumborum. The entering incision should be oblique and parallel with and three quarters of an inch below the twelfth rib.

4. **Renal Traumatism.**—Cumston attributes the frequency of renal injuries to the conditions of modern industrial life, hence it most frequently occurs in males. General symptoms are apathy, which may be followed by unconsciousness, or even prolonged syncope. Vomiting, weak pulse, subnormal temperature, and pallor of the surface are also observed. Local symptoms are pain, swelling, and dulness in the renal region, and blood in the urine. Extravasation of urine may take place into the capsule of the organ, into the retroperitoneal space, or into the peritoneal cavity. Palpation and pressure of the injured kidneys may cause albumen in the urine. Other complicating injuries are fracture of the lower ribs and possible laceration of the pleura, liver, spleen, or intestine, leading rapidly to a fatal issue. Surgical treatment is not necessarily called for, but one should be prepared to operate at a moment's notice when there are signs of hæmorrhage or suppuration.

THE JOURNAL OF NERVOUS AND MENTAL DISEASE.

May, 1906.

1. A Contribution to the Study of Cerebellar Tumors and Their Treatment,
By J. J. PUTNAM and G. A. WATERMAN.
2. Hypæsthesia and Hypalgæsia and Their Significance in Functional Nervous Disturbances, By E. B. ANGELL.
3. The Coming of Psychasthenia, By G. ALDER BLUMER.

1. **A Contribution to the Study of Cerebellar Tumors and Their Treatment.**—Putnam and Waterman report nine cases in which an operation was performed for the relief of cerebellar tumor symptoms, three of which were followed by a decidedly satisfactory result. In one of these three cases a tumor was found and removed with marked benefit to the patient.

In the second case no tumor was found at the first operation, but the symptoms, which had been so severe that the patient's life had been in imminent danger, completely disappeared with the removal of pressure, and only began to return after the lapse of a year and a half; a second operation was then done, and the tumor was discovered and partially removed. In a third case, pressing symptoms were relieved by a palliative operation, and did not show a tendency to return. From this report it may be seen that while the recent studies in localization of cerebellar new growths have brought a series of data within our reach, it is clear that the evidence on which the diagnosis must be based is still very often so confused and contradictory that a satisfactory localization is impossible. Even for such cases operations are advisable, although they offer no promise of a cure, but as these tumors produce usually an early hydrocephalus with often such intense headaches and rapidly developing blindness, it is not only possible, but imperative to offer the patient the chance of relief from these symptoms.

2. **Hypæsthesia and Hypalgæsia and Their Significance in Functional Nervous Disturbances.**—Angell observed a woman who suffered much stress both of mind and body from sexual hypæsthesia. Associated with this special sensory exaltation was a peculiar phase of erotic ideation that at times almost amounted to a hallucination. As there was a marked blunting of ordinary sensibility all about the external genitals, both to touch and pain, it occurred to the author it might be possible to relieve the sexual hypæsthesia by reestablishing common sensibility by faradization. The result proved his reasoning correct, as the local conditions became normal and common sensibility was restored. At the same time there was a concomitant improvement in the mental phenomena. Angell thus investigated the possible relationship between blunting of sensibility and the morbid states of mind so common among neurasthenics, hysterics, and the insane. Four such cases which he treated with faradization yielded also, and proved his theory to be correct.

3. **The Coming of Psychasthenia.**—Blumer states that in psychasthenia the deviation from the normal is qualitative rather than quantitative. Loss of memory is not apparent, neither attentive nor recollective; neither is there evident impoverishment of ideas or weakened power of comprehension. There is no stupor and no disorder of consciousness. But there is a reduction of volitional power, as well as that of prolonged and systematic attention. There is a constant intellectual play of a diffuse sort which results in ever changing imagery and phantasy. Psychasthenics are dreamers, their ideational life cannot be brought en rapport with the physical and the actual. They have perspicuity, but lack the volitional and attentive power to make that keenness of mental vision an available factor in dealing with the everyday problems of life. There is no sensory disturbance in the sense of true hallucination, although the same ideational activity leads the patient to vivify and objectify his thoughts and so to perceive them as voices and visions, thus leading one to confound the phenomenon with genuine perversion of the special senses. There is a lower order of mental activity, capable, it may be, of dealing with the past, the future, the indefinite, the intangible, but woefully impotent to meet the various exigencies of times and occasions. Scruples and diffuse rumination replace decisive judgment and well balanced logic; phobias and anxieties usurp all useful and legitimate emotions, while tics, mechanical impulses, mannerisms, stereotypy, and motor agitation are the aimless substitutes of energetic behavior. Faced with situations demanding action, the subject is overwhelmed by feelings of incapacity, inutility, indecision, humidity, shame, automatism, difficulty, discomfort, domination,

intimidation, and revolt; in the intellectual sphere he feels obscurity, strangeness, unreality, doubt, while his emotional activities are expressed in anxiety, ennui, indifference, and restlessness. The author illustrates his definition by the history of eleven cases.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

May 31, 1906.

1. Medical Statistics and the Sanitary Department of the Russian Forces in the Far East.
By JOHN VAN R. HOFF.
2. Method of Instruction in the Harvard Medical School.
By FREDERICK C. SHATTUCK.
3. On Stiff and Painful Shoulders. The Anatomy of the Subdeltoid or Subacromial Bursa and Its Clinical Importance. Subdeltoid Bursitis.
By E. A. CODMAN.
4. The Complications of Acute Pneumonia.
By HENRY JACKSON.

1. **Medical Statistics and the Sanitary Department of the Russian Forces in the Far East.**—Hoff gives a full statistical review of the killed, wounded, and sick soldiers of the Russian Manchurian army during the last war, not including the army of Port Arthur. From this paper we see that the movement of sickness and wastage, from death and disability, among all grades due to wounds and diseases from January 28, 1904, to September 1, 1905, was 352,412 cases, 8,983 died, 25,255 were discharged for disability, 120,394 were transferred to hospitals west of Lake Baikal, where 13,388 soldiers died, 173,645 recovered, and 25,135 remained under treatment. The killed in battle were 25,467, while 5,541 died of their wounds, and 39,729 were missing. The total strength of the Russian army east of Lake Baikal in October, 1905, was given as 1,037,000. Compared with the Japanese army there were 59,196 Russians killed to 43,892 Japanese, or 57.4 per cent. to 42.6 per cent.; 113,755 Russians wounded to 145,527 Japanese wounded, or 43.8 per cent. to 56.2 per cent.; while 4,661 Russians died of their wounds to 9,054 Japanese, or 4 per cent. to 6 per cent. The author then gives a general review of the medical force, the implements, hospitals, provisions, armamentaria, sanitary convoys, railroad, boat ambulances, field dispensaries, etc.

3. **On Stiff and Painful Shoulders.**—Codman, after an exhaustive description of the anatomy, pathology, and diagnosis of stiff and painful shoulders, speaks of the treatment: In acute cases a splint should be provided, holding the arm at right angles to the body in internal rotation and abduction, or to seat the patient sidewise at a table and let him rest his arm on a pillow. As soon as the pain will allow it, gentle passive motion should be begun to prevent adhesions, but under no condition should the patient be permitted to maintain his arm in the sling position. In chronic acute cases, Dr. J. J. Putnam's suggestion of manipulation under ether should be followed. But the after treatment should consist in a modification of the Monks splint, which will hold the arm in abduction and external rotation. The author gives a detailed description of his method of splint.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

June 2, 1906.

1. Some of the Recent Aspects of Quarantine and Its Relation to Public Health.
By M. J. ROSENAU.
2. The Renaissance of Therapeutics.
By RICHARD C. CABOT.
3. The Cause of the Heart Beat (*To be continued*).
By W. H. HOWELL.
4. Cerebrospinal Meningitis in New York City During 1904 and 1905.
By J. S. BILLINGS, JR.
5. Parasites Infesting the Human Intestine.
By JOHN RITTER.
6. Preliminary Treatment of Idiopathic Epilepsy by Appendicostomy for Colonic Irrigation.
By ERNEST LAPLACE.
7. Acetanilid Poisoning from the Use of Proprietary Headache Powders.
By A. E. AUSTIN and R. C. LARRABEE.
8. A Simplification of the Usual Technics of Skin Grafting.
By JOHN EGERTON CANNADAY.

9. The Rational Treatment of Urethritis.
By NOAH E. ARONSTAM.
10. Local and Regional Anæsthesia in Rectal Surgery. A Synopsis of Seventy Operations.
By A. B. COOKE.
11. The Spirochæta Pallida (*Treponema Pallidum*) in Syphilis.
By W. C. ALVAEZ.

2. **The Renaissance of Therapeutics.**—Cabot remarks that: Therapeutics has become, within the past few years, very noticeably more effective. This increased effectiveness is the result of the aggressive spirit as exemplified by the work of the New York Board of Health in school hygiene and school inspection and by the tuberculosis work now being carried on in Boston. There is now greater interest taken by the laity in medicinal work, both by intelligent cooperation and by financial support. Our acquaintance with physical therapeutics, especially with the details on which their successful application depends, has become greater, and there has been a rise of scientific mind cure and of social work marking a recognition of the psychical and of the social elements in all disease. The utilization of the unique talents of women in the field of therapeutics has become wider. With the rise of the type of therapeutics described we are now witnessing a limitation of the sphere both of surgical therapeutics and of drug therapeutics.

4. **Cerebrospinal Meningitis in New York City During 1904 and 1905.**—Billings describes the cerebrospinal meningitis epidemic in New York in 1904 to 1905, with the methods employed to overcome it. From the elaborated statistic data we see there was in 1904 a total of 1,083 deaths and a death rate of 4.6; during 1905 1,511 deaths and a death rate of 6.3. The cases were divided fairly evenly into males fifty-five per cent., and females eighty-five per cent., sixty-seven per cent. occurred in children under ten years of age, fifteen per cent. in infants under one year, only nineteen per cent. were adults, and only one per cent. were patients over fifty years of age. Italians were very susceptible to the disease, as fifteen per cent. of the patients were of that race. Seventy-six per cent. of the patients lived in tenement houses. Referring to the transmission of the disease and its treatment the author says that clinical investigation so far has thrown very little light on the mode of transmission of the disease, nor has any effectual mode of treatment been discovered. It is to the laboratory workers that we must look for assistance, and already new and valuable facts have been discovered regarding the meningococcus, its habitat, mode of transmission, vitality, methods of identification, etc. A very important point that has been brought out is that, in all probability, the disease is much more infectious during the first two weeks of its course. Guided by this fact, the department of health has enforced quarantine for at least the first two weeks and ordering disinfection of the rooms and bedding. As a possible consequence of these precautions the number of deaths reported in the first nineteen weeks of 1906 have been 431, as compared with 1,300 in the same period in 1905.

5. **Some Parasites Infesting the Human Intestine.**—Ritter gives a description of three species of tapeworm which are of special interest to the medical practitioner, and are usually found in the upper third of the small intestines: *Tania solium* (pork tapeworm), *Tania saginata* (beef tapeworm), and *Bothriocephalus latus* (fish tapeworm). The only reliable sign of the presence of a tapeworm is the passing of pieces or segments. The author reviews the usual treatment given and adds his own experience. As a rule he does not require any preliminary fasting on the part of the patient. On the contrary, the patient should be asked to eat a full dinner in the evening and a hearty breakfast on the following morning. He orders a purgative to be taken in the evening, and the following morning after the

bowels are well emptied he prescribes the following teniafuge:

R Resinæ podophyllini, gr. i;
Oleoresini filicis maris, 3iss;
Extracti fluidi kamalæ, 3iii;
Spiritus chloroformi, 3i;
Mucilaginis acaciæ, 3i;
Aque menthe piperitæ, 3iii.
M. Ft. emulsio. Sig.: Take in three equal doses at intervals of half an hour.

8. A Simplification of the Usual Technics of Skin Grafting.—Cannaday describes his mode of skin grafting, using the Thiersch graft, if possible taking it from the patient. The granulations are irrigated with hot saline solution, and the surface is freshened by a very gentle rubbing with an ordinary sterile nail brush. This freshens the granulations without destroying them. He has abandoned the curette for this purpose. Hot saline solution and pressure quickly control the slight hæmorrhages. The grafts are sliced off by sawing movements of a sharp aseptic metal handled razor, half the thickness of the skin, half an inch wide and one and one half inches long. As soon as cut the graft is turned over the end of the left index finger, skin side next to the finger, carried directly to the denuded site and pressed down on the surface with the finger, a small probe being used for smoothing and straightening it out. The author believes in direct transferring without saline or other solutions. The grafted site is covered with a thin rubber dam, criss crossed for drainage if the area is large. A small gauze pad is placed over this, fastened with narrow strips of zinc oxide adhesive plaster; while externally cotton, gauze, and bandage dressing is applied. Frequently it will be well to apply a splint or to encase the part in plaster of Paris to secure immobilization. A slight degree of pressure will keep the grafts in contact with the part, prevent serum from collecting between the graft and the wound, and prevent bleeding. Too much pressure will promptly kill the grafts.

9. The Rational Treatment of Urethritis.—Aronstam gives a description of his procedure of treating acute urethritis. The patient should drink plenty of water, mineral waters if preferred, while all alcoholic and malt beverages must be interdicted, as well as tea and coffee, highly seasoned dishes, and nitrogenous food. The anterior urethra is flushed with a normal saline solution, the apparatus not being elevated higher than six feet. After cleansing of the urethra twenty minims of a solution of adrenalin (1:1,000) is instilled through an ordinary bulb eye dropper into the canal, the solution to be kept there for at least five minutes. The saline irrigations are continued daily, if possible twice a day for ten days, after which period potassium permanganate is substituted in ascending strength, beginning with 1:10,000 and increasing to 1:1,000 by the end of the third week. Three weeks should suffice to effect a cure. The treatment of the chronic form is more difficult, tedious, and complicated. The author uses an injection of a five per cent. solution of protargol, together with adrenalin chloride and Magurdie's solution of morphine if necessary. Silver nitrate may also be used, but only in some cases. Irrigation with strong solution of potassium permanganate or zinc sulphate are likewise useful. The indications for insertion of sounds are the following: 1, In the incipient and formative stages of strictures; 2, in the involvement of the posterior urethra without implication of its annexa; 3, as a powerful stimulant to the urethra in catarrhal conditions affecting its anterior segment, where no gonococci are demonstrable. But the most thorough treatment is that afforded by the urethroscope, which reveals not only the actual seat of the trouble, but gives good aid in the direct application of medical agents to the diseased area. Thus, the in-

strument serves a double purpose, as a means of diagnosis and as a therapeutical auxiliary. The value of internal treatment in chronic gonococcic urethritis is questionable.

10. Local and Regional Anæsthesia in Rectal Surgery.—Cooke's principle of anæsthesia in rectal surgery consists of pressure analgesia, distention of the area operated on with sterile water, or a weak solution of some analgesic drug. Within the past twenty months he has employed this method seventy times in a series of cases, including fistula, prolapsus ani, fissure, and external and internal hæmorrhoids. It is a thoroughly reliable means of affording relief in many cases which would be otherwise unsuitable for operation.

MEDICAL RECORD.

June 9, 1906.

1. Medicine and Law in Relation to the Alcohol, Venereal Disease, and Tuberculosis Problems, By S. A. KNOPF.
2. The Need of Publicity in Venereal Prophylaxis, By DENSLOW LEWIS.
3. A Rare Case of Presumably Congenital Luxation of the Arytenoid Cartilage, By P. TETENS HALD.
4. Some Clinical Remarks on Traumatism as an Ætiological Factor in Appendicitis, By W. J. MACDONALD.
5. Deaths of Athletes and Fatalities in Athletic Games During the Year, By ROBERT E. COUGHLIN.
6. Treatment of Typhoid Fever, By J. R. LANDERS.
7. Summer Diarrhœa in Infancy, By GEORGE THOMAS MYERS.
8. Cerebral Segmentation. A New Method of Reading the Brain, By WALLACE WOOD.
9. A Modification of the Incision for Exposing the Mastoid Bone, By L. J. HAMMOND.

1. Medicine and Law in Relation to the Alcohol, Venereal Disease, and Tuberculosis Problems.—Knopf describes with the great amount of statistics on hand the evil influence of alcohol and venereal diseases, their sequelæ, specially tuberculosis. The suggestions he offers to prevent alcoholism in our country can be stated as the Gothenburger system, which consists in the manufacture and sale of alcohol by the government and giving the dispenser of alcohol a salary so that no benefit accrue to him no matter how much alcohol he sells, but this system is hardly practicable in our country. Perhaps even a law limiting the manufacture of alcoholic beverages is not yet feasible, but it is possible to limit the number of licenses of saloons. The building of model tenement houses, the creation of more parks and playgrounds and healthful places of amusement, open Sundays and weekdays, where the laborer can partake of nonalcoholic drinks and enjoy the society of his friends, will do more to do away with alcoholism than draconic laws. In venereal diseases the author says that he believes in making these diseases reportable to the board of health with such restrictions as assure the unfortunate sufferer protection against publicity. The only condition to be insisted upon is that the reporting physician should receive a leaflet of instruction issued by the board of health, explaining to the patient, to whom it should be handed, the disease and the precautions he should take to prevent infection. Educating the people at large by lectures and pamphlets, and instructing school children and adolescents concerning the nature of these diseases would assist also. The teaching in schools and colleges might be done by the school physicians, and the lessons adapted to the age and understanding of the pupils. In speaking of prostitution he reports that our greatest syphilographers do not agree on this question. Here in America, in addition to the difference of opinion among medical authorities on the subject, there is a strong popular prejudice against laws regulating prostitution. The author has the strongest doubt that the social evil as such can be

suppressed in a city like New York by no matter how strict a police regulation. On the other hand, to limit the evil to some portion of our city, a district which could be properly controlled by an efficient police, would stop the concomitant thievery and robbery, and greatly diminish that still greater crime of having men live on the shame of women. Remove by sensible and just laws the necessity of bribe giving, and the bribe giver will cease to exist. Referring to tuberculosis the author remarks: The medical profession should do its utmost to diagnosticate and recognize the early cases of tuberculosis, and city and State governments should enable the medical profession to send the poor and deserving cases to sanatoria, where they have the best possible chance of being cured.

3. A Rare Case of Presumably Congenital Luxation of the Arytenoid Cartilage.—Hald reports the following case: The patient was a girl, fourteen years old. Family history good. According to the mother's statement, the patient had been hoarse since her birth, but had never suffered from pain in the throat, accompanying speech or deglutition; neither had she suffered from dyspnoea or coughing. In the fall of 1905 the patient was treated twice for rheumatic fever in the hospital. During her first stay in the hospital the patient suddenly became very hoarse and dyspnoeic; no sore throat or painful swallowing. A laryngoscopic examination was made and symptoms of an acute laryngitis detected besides the following alterations: The right side of the larynx was quite normal, but the left wall of the vestibulum laryngis with the left arytenoid cartilage was turned over into the cavity in nearly a horizontal position and covered the posterior half of the rima glottidis and of the left ventricular band. The outlines of the left cartilago corniculata and cuneiformis were clearly visible. In trying to correct the deformity with a probe, a rather considerable resistance was felt, and the cartilages when let go at once recovered their former position. The left superior corner of the cricoid plate and its nearest surroundings seemed somewhat more protruding than on the right side. The left vocal cord remained totally immovable in slight abduction both during respiration and phonation; during the latter it appeared somewhat incurved and narrower than the right. The right vocal cord did not reach the left during phonation, but the apex of the left cartilago corniculata penetrated a little into the right ventricular band, and the arytenoid and cuneiform cartilages on the right side were pressed towards the cavity, so that this part of the right wall of the vestibule of the larynx lay pressed firmly against the turned over part of the left wall and partly covered it. The treatment consists for those cases in which the cartilage can be moved in an attempt of a reposition with a probe or other suitable instrument, but the alterations of the articulating surfaces and their surroundings will, as a rule, make it impossible to get a good result from the manipulations.

5. Deaths of Athletes and Fatalities in Athletic Games During the Year.—Coughlin has collected the statistics relating to the deaths of athletes and the fatalities in athletic games during the year 1905. The whole number of deaths collected amounted to one hundred and twenty-eight, of which fifty were due to diseases and seventy-eight to accidents of different kinds. Cerebrospinal meningitis was stated to be the cause of death in nine cases; cardiac disease in eight; pneumonia in seven; pulmonary tuberculosis in seven; Bright's disease in five; appendicitis in four; typhoid fever in four; suicide in two; apoplexy in one; suppurative tonsillitis in one; splenic anæmia in one; senility in one. In the accidental deaths football was the game mentioned in twenty-eight cases; baseball in twelve; horse racing in none; boxing in six; gymnasium feats in three; auto driving in two; the other

fatalities being equally divided between golf playing, hammer throwing, bicycle coasting, handball, polo playing, and wrestling. Of the fifty deaths due to disease the ages at death were stated in twenty-nine instances, the average age being thirty-one years, the oldest age eighty-seven years, and the youngest eighteen years. In the accidental deaths the ages were stated in thirty-nine cases, the average age at death being twenty years; the oldest age sixty years, and the youngest twelve. The average age at death of the whole number was twenty-six years and one month.

9. A Modification of the Incision for Exposing the Mastoid Bone.—Hammond has found the following modification very advantageous: The incision is triangular instead of being straight or slightly semicircular as in the usual method, beginning about one half inch back of the superior postauricular attachment, extending through all the tissues obliquely backward and downward along the hairy margin to a point just below the middle of the posterior border. From this point the incision is again carried through all the soft tissues forward and downward to the posterior border of the digastric fossa. By this incision one avoids all the postauricular vessels and nerves, except possibly some of the minute auricular branches of the occipital, and even they may be avoided if the lower incision of the triangle does not have to be extended too obliquely downward. It is of no little importance to avoid division of both vessels and nerves, and especially the vessels, in this region, as about all the blood supply comes from the carotid arteries, and the extensive sloughing which often occurs after division of the postauricular vessels will be prevented if the blood supply can be preserved and trauma from retraction of the flaps is avoided.

BRITISH MEDICAL JOURNAL

May 19, 1906.

1. Remarks on Lung Complications After Operations with Anaesthesia. By G. E. ARMSTRONG.
2. Postanaesthetic Acetonuria: The Significance of Delayed Chloroform Poisoning and the Advantages of Ether Over Chloroform in Acute Infective Conditions, By L. BEESLY.
3. Subphrenic Abscess Complicating Empyema: Resection of Ribs: Cure, By E. W. ARCHIBALD.
4. An Improved Method of Performing the Pancreatic Reaction in the Urine. By P. J. CAMMIDGE.
5. Extroversion of the Bladder: Its Treatment by Extraperitoneal Implantation of the Ureters Into the Rectum, By C. J. BOND.
6. Tonsillitis in Convalescence from Diphtheria, By J. D. ROLLESTON.
7. Autointoxication: Its Relation to Certain Cardiovascular Disorders (*Goulstonian Lectures, II*), By H. B. SHAW.

1. Lung Complications of Anaesthesia.—Armstrong has studied the incidence of lung complications after operations with anaesthesia. Of 2,500 operative cases, in most of which ether was used, fifty-five, or 2.2 per cent., developed some such complication; thirty-two, or 1.28 per cent., came to autopsy. The youngest case was one year of age and the oldest seventy-eight. There were forty males and fifteen females. Of the fifty-five cases, thirty-five occurred during the cold months of the year. The lung complications all developed within forty-eight hours of the administration of the anaesthetic. Pneumonia occurred in thirty cases; lobar in fourteen and bronchial in sixteen. Bronchitis developed in nineteen instances, plastic pleurisy in three, pleural effusion in one, and empyema in two. Among the more commonly recognized causes of post-operative lung complications are the anaesthetic itself, aspiration from the mouth and pharynx, emboli, cooling of the body surface, weak heart action with hypostatic congestion, local and generalized sepsis. In the series of cases here reported the administration of ether

per se was not a very active cause. Lung complications were most frequent in cases of trephining (twenty per cent.), usually due to aspiration, as was proved in the cases coming to autopsy. The next group of cases showing the largest proportion of lung complications were those of local and generalized septic peritonitis (2.8 per cent.). The infection is probably carried through the diaphragm, or by the lymph vessels, or into the bronchi from the pharynx. The majority of the cases of pneumonia were right sided, probably due to the fact that the right bronchial tree is larger than the left. Emphysematous patients are more apt to suffer from bronchitis than from pneumonia. In the prevention of these complications the anæsthetist himself is of the first importance. The greatest care should be observed in administering the ether slowly, and sufficiently diluted not to excite a hypersecretion of mucus in the air passages. Stomach lavage is often of great service in emergency cases. All parts of the body not necessarily exposed should be kept thoroughly wrapped in warm blankets. Among the predisposing causes may be mentioned age, sex, alcoholism, sepsis, and cachexia. The author believes so firmly in the prevention of the inspiration of mucus and vomitus from the pharynx that he gives only sterilized water for drinking purposes for twenty-four hours before operation, and has the patients make frequent use of antiseptic mouth washes; also that the greatest possible care is taken by the anæsthetist and afterwards by the ward nurses, to keep the mouth and pharynx clean and free from an accumulation of mucus and secretions.

4. The "Pancreatic" Reaction in the Urine.—Cambridge describes an improved method of performing his so called "pancreatic" reaction. He has simplified the technique, which was quite complicated. He does not contend that at all times and under all conditions the results given by this method are indicative of the presence or absence of pancreatic inflammation, but thinks it may be of considerable assistance in diagnosis. It is always advisable to control the urine examination by an investigation of the *fæces*. If the results agree the chance of a mistaken opinion is considerably reduced. It is of the utmost importance that malignant and inflammatory conditions of the pancreas should be clearly differentiated.

5. Extroversion of the Bladder.—Bond reports a case of extroversion of the bladder, successfully treated by extraperitoneal rectal implantation of the ureters. The boy was seventeen years old at the time of operation three years ago. He has now no trouble with the urine, which is voided from the bowel four or five times a day. Though his condition is so far satisfactory, he has had a serious attack of pyelitis of both kidneys, and has occasional attacks of pain and pyuria. It is probable that every patient undergoing this operation has some degree of ascending infection of the ureters. As under the new conditions the ureters must open into a septic cavity, the preservation of the normal valvular opening at the ureteral papillæ, and hence the avoidance of any cicatrization of the outlet, is the chief safeguard in preventing stagation of the contents of the ureter, the most potent contributory factor in the production of ascending infection. The urine in these cases is usually passed unmixed with *fæces*; this confirms the view that the rectum is habitually empty except shortly before the passage of a normal motion; thus the urine collecting in the rectal ampulla free from *fæces* is voided when the rectum becomes sufficiently distended. This habitual emptiness of the rectum makes it a more suitable site for implantation of the ureters than the colon, which always contains *fæces*. In the author's case no attempt was made to remove or cover in the exposed bladder mucous membrane; yet, owing to change of environment, the exposed surface gradually changed its character and became a

nonsecreting skin surface, having all the appearance of cicatricial skin.

LANCET.

May 19, 1906.

1. The Preservation of Health Among the Personnel of the Japanese Navy and Army (*Lecture I*).
By BARON TAKAKI.
2. Autointoxication: Its Relation to Certain Disturbances of Blood Pressure (*Goulstonian Lectures, II*).
By H. B. SHAW.
3. The Cheyne-Stokes Phenomenon in Acute Cerebral Compression.
By W. TROTTER.
4. The Action on Bacteria of Electrical Discharges of High Potential and Rapid Frequency.
By A. G. FOULERTON and A. M. KELLAS.
5. Note on a Peculiar Form of Hæmoptysis, with Presence of Numerous Spirochætæ in the Expectoration.
By A. CASTELLANI.
6. Hypertrophy and Dilatation of the Heart in a Child Without Valvular Disease or General Adhesion of the Pericardium.
By G. CARPENTER and T. FISHER.
7. Ossification of the Fontanelles and Closure of Sutures at Birth. A Cause of Difficult Delivery.
By T. LEAHY-LYNCH.
8. A Note on the Influence of Antitoxic Serum on the Tuberculoopsonic Index.
By T. R. BRADSHAW.
9. Extensive Rupture of the Liver Without External Injury.
By F. S. LLOYD.

2. Autointoxication.—Shaw, in his second Goulstonian lecture, discusses the work of Tigerstedt and Bergman, who claim to have demonstrated the presence in the renal cortex of a pressor substance—renin. When it enters the circulation, which occurs in certain pathological conditions, the blood pressure rises. In the contracted kidney one of the best established changes is the shrinkage of the cortex. On the other hand, high arterial tension is not so constant a feature of chronic parenchymatous nephritis where there is no shrinkage of the cortex. So that maintained hypertension may mean disintegration of kidney substance and its entrance into the circulation. Hypertension may be shown to exist in other cases when other organs than the kidney are undergoing disintegration, but it is probably maintained only in those cases where the kidney is affected. The renal cortex on entering the circulation probably causes spasm of the arteries. Renal asthma so called, so common in sclerosis of the kidneys, is greatly remedied by the use of drugs which dilate the arteries. It may be that some of the signs of uræmia are dependent upon a sort of "intermittent claudication" or rather "paroxysmal claudication" of certain vascular areas, and that renin may be the immediate cause, and local vascular disease the predisposing one. In conclusion the author discusses the products of proteid dissociation, and especially the nucleoproteids and their effect upon blood pressure.

4. High Frequency Electric Currents and Bacteria.

—Foulerton and Kellas have investigated the nature of the action of high frequency electrical discharges on bacteria. They found that when such discharges were sprayed on to an emulsion of bacteria through an atmosphere of common air, nonsporing bacteria were destroyed after an exposure of from seven to fifteen minutes, while sporing bacteria were more resistant, but were also destroyed as a rule within fifteen minutes. Such bactericidal action might be due to (1) the action of the light rays resulting from the discharge; (2) the action of the heat rays resulting from the discharge; (3) the action of germicidal substances formed in the air as a result of the discharge and then taken up in solution by the emulsion; and (4) the direct action of the electrical force itself upon the bacteria and apart from concomitant chemical and other action. From their experiments it appeared that the bactericidal effect was due entirely to the action of sub-

stances formed as the result of electrical action on the atmosphere in which the discharge occurred; and that under the time conditions of the experiments the electrical force employed was not capable of exercising any injurious action on the bacteria tested. It is probable that when cases of lupus and certain other cases in which there is an exposed ulcerated surface are treated by high frequency discharges, the results produced are due entirely to the action on bacteria of nitrous and nitric acid formed in the neighboring air. So that from a therapeutical point of view the use of high frequency discharges in such cases must be looked on mainly as an efficient method for bringing germicidal substances in a nascent and very active condition into contact with the bacteria present in the lesion exposed to the action of the discharge.

5. Hæmoptysis Associated with Spirochætæ.—Castellani reports two cases of a peculiar hæmorrhagic bronchitis observed by him in Ceylon. The disease was of several years' standing; expectoration was more or less abundant and mucopurulent, now and then containing blood; sometimes attacks of genuine hæmoptysis occurred, pure blood being expectorated. Examination of the sputum showed the presence of large numbers of spirochætæ. Physical examination revealed a few moist râles at the bases of the lungs. The condition might have been a bronchial or broncho-alveolar localization of the spirochætæ buccalis.

6. Cardiac Hypertrophy.—Carpenter and Fisher report the case of a boy, aged eight years; there was an indefinite history of "heart trouble" and of swelling of various joints. At the autopsy the main morbid condition found was dilatation associated with hypertrophy of the heart. There was no evidence of any valvular disease nor of any pericardial adhesion, yet the authors suggest that the enlargement of the heart was due to rheumatism. Since the difference in degree of the dilatation of the heart which occurs in association with rheumatic pericarditis and in suppurative pericarditis is very great, it seems clear that the dilatation rests upon no such simple causation as yielding of the fibrous pericardium. It probably depends rather upon something more subtle, upon a poisoning of the heart which affects it chiefly in this way during the growing period of life. After the age of twenty years rheumatic pericarditis causes little or no enlargement of the heart.

8. Antitoxine and the Opsonic Index.—Bradshaw determined the tuberculoopsonic index of the blood of nine individuals who had previously been injected with antitoxic serum, and found it to be below normal in each instance. This influence of the antitoxic sera, antitetanic as well as antidiphtheritic, may possibly be due to some property inherent in the blood of the horse.

LYON MEDICAL.

May 13, 1906.

1. Some Facts in Regard to Renal Tuberculosis, By RAFIN.
2. Mobilization of the Duodenum, By R. LERICHE.

1. Renal Tuberculosis.—Rafin reports four cases of renal tuberculosis, two of which were cured by the removal of the affected kidney, one died as the result of the involvement of both kidneys, and one recovered under medical treatment.

2. Mobilization of the Duodenum.—Leriche points out how the mobilization of the duodenum may be utilized by the surgeon in operations on the stomach, liver, and pancreas.

LA PRESSE MEDICALE

April 18, 1906.

1. Nerve Suturing, By PAUL RECLUS.
2. Senility. The Senile Heart, By A. LETIENNE.
3. Tuberculosis and Landry's Paralysis, By R. ROMME.

4. The Diuretics of the Xanthic Series,

By ALFRED MARTINET.

1. Nerve Suturing.—Reclus discusses the theories which have been advanced to account for the reestablishment of functional activity in a part supplied by a nerve which has been divided and sutured together. He divides the cases into two groups, the physiological, or those in which the return of function takes place weeks or months after the section and suturing, and the paradoxical, or those in which the return of functional activity is immediate, or at least very rapid. The first he explains as due to the degeneration and centrifugal regeneration of the nerve, the second by the so called autogenous or centripetal regeneration.

2. The Senile Heart.—Letienne says that the first sign of a senile heart is lassitude. There is a muscular fatigue disproportionate to the effort accomplished, an indefinable malaise, low spirits, need of repose, and a feeling of comfort experienced in tranquil rest, but no pain. Slight sensations of vertigo, feelings of instability, faulty equilibrium, and ocular troubles, which are very distressing, cease when the patient is at rest, but are reproduced by the least fatigue. The nervous system is affected in the same way as the muscular, the customary intellectual work cannot be carried on, and prolonged conversation produces fatigue. The patient is somnolent, but sleep is broken and not normal. Digestive troubles appear with their influences on other organs.

LA SEMAINE MEDICALE.

May 9, 1906.

Typhlitis and Perityphlitis,

By F. LEJARS.

Typhlitis and Perityphlitis.—Lejars would revive these terms to indicate certain inflammations which at present are usually confounded with appendicitis, although the appendix is in no way associated with their existence. By typhlitis is meant inflammation of the cæcum without involvement of the appendix, by perityphlitis inflammation of the tissues about the cæcum likewise without involvement of the appendix. A number of cases are quoted from recent literature to prove the existence of these forms of inflammation, but inasmuch as the same operative treatment is demanded, modified in no way by the noninvolvement of the appendix, this distinction would seem to be academic rather than practical.

BERLINER KLINISCHE WOCHENSCHRIFT.

May 7, 1906.

1. Some Disillusions and Hopes in the Treatment of Tuberculosis, By Professor ENRICO DE RENZI.
2. Method of Determination of Aminoacid in the Urine, By L. HIRSCHSTEIN.
3. Ochronosis (Concluded), By L. PICK.
4. The Chemistry of Ochronosis, By L. LANGSTEIN.
5. The Advantages of the Combination of Organotherapy with Physical Dietetic and Balneotherapeutic Means, with Some Means of Proving the Same (Concluded), By A. VON POELL.
6. Uterine Hæmorrhages, By E. RUNGE.

1. Disillusions and Hopes in the Treatment of Tuberculosis.—De Renzi refers by his disillusions to his experimental investigations of the supposed therapeutical action of carbon dioxide on tuberculosis, which was based on seven clinical grounds, viz., that tubercles do not develop in muscular tissue, which is the richest tissue in the human body in the production of carbon dioxide; that tuberculosis attacks by preference the apex of the lung, while carbon dioxide gathers at the base of the lung on account of its weight; that diabetics fall victims so easily to tuberculosis because the sugar in their organisms is not transformed into carbon dioxide; that tuberculous processes stand still during pregnancy when there is an increase of carbon

dioxide in the blood; that tuberculosis is very rare in association with diseases of the heart with pulmonary stasis and increase of carbon dioxide; that it is also rare, and for the same reasons, in primary emphysema and with sciosis; and that carbon dioxide has been used in several ways for the treatment of tuberculosis. But he has found no scientific support for such therapeutical action. By hopes he refers to the three means of treatment greatly advocated at the present time, fresh air, hyperalimentation, and rest. With each of these he deals at length and gives the results of his experiments on guinea pigs.

3. **Ochronosis.**—Pick ends his very long paper with these conclusions: Ochronosis is a certain form of melanotic pigmentation. Chemically the pigment closely resembles melanin. The coloring matter circulating in the blood is imbibed first by the cartilages and cartilaginous parts, but may also be taken up by the loose connective tissue and its cells by the smooth and striated muscle fibres and epithelial cells without either the tissue or the cells appearing to be histologically vitally weakened. The intensity of the stain is greater in parts which have undergone regressive changes. The diffuse pigment may be packed secondarily into granules. Both forms of pigment are free from iron microchemically, and under certain conditions may contain fat. The melanin of ochronosis is produced by the action of tyrosinase on tyrosin and phenylalanin. Exogenous ochronosis has been produced by the administration for a very long time of minute quantities of phenol. It may also be produced endogenously by the action of tyrosinase on alcaptonic acid. The ochronotic pigmentation may affect the outer parts, the ears, sclera, skin of the face, the inner surface of the lips and the hands, and thus furnish a clinically diagnostic indication of the disease during life. In many cases the coloring matter is excreted through the urine, and then the urine spontaneously becomes dark from oxidation on exposure to the air. In the kidneys there may be diffuse ochronotic staining of the parenchyma with granular masses in the lumina and epithelium of the tubuli recti, and macroscopical epithelial cysts with black contents may be formed. Hence arise casts stained with the pigment. In some cases the diffuse staining may be absent. In cases of ochronosis confined to the inner parts these casts form a pathognomonic sign, the same as melanuria or alcaptonuria without external pigmentation.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

May 8, 1906.

1. Forms of Varicella which Resemble Variola, By WILHELM EBSTEIN.
2. Anæsthesia in Minor Surgery, By ZUR VERTH.
3. Method of the Determination of the Viscosity of Human Blood, By DETERMANN.
4. A Second Case of Fracture of the Oesophagus by a Vertebral Ecchondrosis, By ZAHN.
5. Symmetrical Gangrene of Both Lids After an Injury to the Forehead, By APETZ.
6. A Case of Artificial Acute Nephritis After the Use of Balsam of Peru. Recovery of a Case of Traumatic Tetanus, By RICHARZ.
7. A Nursing Bottle for Infants, By CRAMER.
8. The Formation of Specific Leucotoxines in the Blood Serum as the Result of the Use of X Rays in Leucæmia, Pseudoleucæmia, and Lymphosarcoma (Concluded), By CARL KLIENEBERGER and HEINRICH ZOEPFRTZ.
9. Christmas Time in Florida, By CARL BECK.

6. **Artificial Acute Nephritis After the Use of Peruvian Balsam.** Recovery from an Attack of Traumatic Tetanus.—Richarz reports the case of a patient, sixteen years old, who applied a ten per cent. ointment of Peruvian balsam to her arms for the relief of scabies with secondary eczema. Probably only three appli-

cations were made, these in a single day. Symptoms of a severe nephritis then set in and the patient died.

8. **Specific Leucotoxines in the Blood Serum as the Result of the Use of X Rays.**—Klieneberger and Zöppritz refer to the x ray treatment of leucæmia as the only one known at present which may produce a good result, although it very frequently fails, and review the ideas which have been advanced to explain the manner of action of the x rays. For the purpose of trying to elucidate this subject they instituted experiments which show the leucolytic action of the blood serum of men who have been subjected to the x rays both in test tubes and in animals. They demonstrate the *Röntgentoxine* in the blood serum in test tubes. Thus they show the immediate influence on leucocytes exerted by the serum of men who had been treated with the x ray, the similar influence on amœboid motility, and give the results of experiments with human pus, exudate and transudate cells, as well as experiments with leucocytes taken from the lower animals. The authors conclude that a cell poison able to change human leucocytes in vitro, a *Röntgentoxine*, is not produced in the blood serum of patients with leucæmia, pseudoleucæmia, or lymphosarcoma by the use of the x rays. They then pass to their experiments on animals, whence they conclude that a hypoleucocytosis is not constant after the injection of *Röntgensera*, and that this hypoleucocytosis may also follow the injection of an inactive serum, or of the serum from a patient with leucæmia who has not undergone treatment.

ZENTRALBLATT FUER CHIRURGIE.

May 5, 1906.

1. Congestion Hyperæmia in Acute Inflammations, By E. LEXER.
 2. The First Dressing on the Battlefield, By HERHOLD.
1. **Congestion Hyperæmia.**—Lexer urges all those who use Bier's method in the treatment of acute inflammations to note carefully the bacteriological findings in order that the action of the treatment in various forms of infection may be learned. In many of his own successful cases, the streptococcus has been found.
2. **First Dressings.**—Herhold emphasizes the importance of antiseptic dressings (sublimate gauze) as a first dressing on the battlefield. The aseptic dressing, he maintains, may well wait until the patient reaches the first field hospital.

RIFORMA MEDICA.

April 28, 1906.

1. On the Ætiology and Diagnosis of Abscess of the Liver, By UMBERTO GABBI.
 2. A Lymphatic Ganglion in the Inguinal Canal in a Case of Hernia, By EGISTO MAGNÌ.
 3. Echinococcus Cysts of the Liver and Kidneys, By GASPARE ALAGNA.
1. **Hepatic Abscess.**—Gabbi reports six cases of abscess of the liver which he was able to trace to the operating room or to the autopsy table. He found in studying the clinical histories of these cases that the intensity of the pain is not in proportion to the amount of peritoneal involvement when the abscess is superficial. The most intense attacks of pain occurred in cases in which the liver was freely movable and the abscess was not superficial. Nor is the pain apparently in proportion to the size of the abscess. The location of the pain has much to do with the site of the abscess, however, as, for example, when the abscess is on the convexity of the liver the pain is in the scapular regions, while when the abscess is in the posterior portion of the organ or the external part of the right lobe the pain is lumbar or illeocostal. In one case of lumbar and illeocostal pain a perinephritic abscess was thought of until the hepatic area was found to be enlarged. An abscess in a movable liver is quite exceptional; almost always there are extensive adhesions. A physical sign which is usually spoken of in the text-

books in a diminished resistance or palpation over the abscess and at times more or less marked fluctuation. Gabbi cites a case in which there was actually an indurated liver felt, and notes that the subject was an alcoholic.

2. **A Lymphatic Gland in the Inguinal Canal of a Patient with Hernia.**—Magni reports a case of inguinal hernia in which the inguinal canal contained an enlarged lymph node adherent to the cord and the sac. Anatomists agree that there are no lymphatic glands within the inguinal canal, and Magni believes that in the present instance a gland which lay at the entrance to the canal was drawn into the opening with the protruding intestine and thus travelled along the passage, where it became inflamed and hypertrophic.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN GENITOURINARY DISEASES.

Meeting of March 21, 1906.

Dr. RAMON GUITERAS in the Chair.

Calculus of the Pelvic Ureter.—The patient and the specimen were presented by Dr. HOWARD LILIENTHAL. A man of twenty-five presented himself, complaining of pains in his right loin, and of occasionally, for about a year, having passed red urine. Examination showed an extremely sensitive spot over the appendix area, and stone of the pelvic ureter was suspected, which was confirmed by the x ray. The phonophore of Dr. Cabot was used, but the result was not positive. The patient was operated on. The incision was made just above Poupart's ligament, very close to the spine of the ilium, the peritonæum raised, and the ureter reached. The ureter was found to be very much dilated, having somewhat the appearance of the intestine. An incision was made into the ureter an inch and a half above the pelvic brim, a probe inserted, and the stone found and removed with a dressing forceps. Examination later showed the stone to be pure calcium oxalate. The ureter was closed by a double row of Lambert sutures, and in closing the abdominal wound the muscular layers were lapped over each other.

Dr. WILLY MEYER said that some of these cases were very difficult, and told of one case to illustrate his point. He had also been in the habit of making the incision close to the ilium and of lapping the fascia in closing the abdominal wound. He emphasized the importance of taking more than one x ray picture before making a positive diagnosis.

Dr. F. TILDEN BROWN spoke of a case of ureteral calculi in which one of the stones descended and then retreated, as shown by the x ray. The lower stone did not wholly occlude the ureter. In the majority of these cases it was difficult to pass a catheter past the stone. The ureteral catheter was useful during and after operations where the pelvis of the kidney was infected, for the purpose of drainage and to act as a splint during the operation.

Dr. FOLLEN CABOT said he was present when Dr. Lilienthal's patient was examined with the phonophore. The catheter was passed by the obstruction up to the kidney after some manipulation. It was withdrawn and could not be passed a second time. The test in this case was not positive, although it was thought that a decided click was heard. After the operation it was noticed that the stone had a little tissue attached to it, which might have accounted for the indefinite results with the phonophore.

Dr. WILLIAM K. OTIS said that, considering the small calibre of the ureter, it was an interesting point that the phonophore could be passed beyond a stone

impacted in the ureter without eliciting the fact that it was present. When ureteral catheterization was first introduced it was believed that one of the most important advantages to be derived from it was an absolute and unfailing method of detecting and locating stones in the ureter, but practical experience had shown that this was by no means the case, and that it was not at all uncommon to pass by good sized stones without appreciating their presence, even when the wax tipped catheter was used. He mentioned one case of his own in which a scratch was at times easily obtained, while at others it was impossible to touch the stone, even during the same examination.

Dr. ALEXIS V. MOSCHOWITZ thought that operations for ureteral calculi were becoming more and more frequent. He had two cases under observation now, both of which gave definite symptoms of ureteral calculus, and they had been verified by the x ray. He mentioned a case of bilateral ureteral calculus that he had presented two years ago. The patient had suffered from total anuria for seventy-two hours. Double nephrotomy was done, and the patient recovered. A calculus was removed from each ureter.

Dr. LILIENTHAL said that the ureter in his case was very large and very thick. The symptoms were intermittent, and the ureter had become hypertrophied on account of its intermittent efforts to expel the stone. The stone lay in a considerable sac. It was his rule always to take at least two and often three pictures to verify the presence of stone.

Calculus of the Bladder.—This patient also was presented by Dr. HOWARD LILIENTHAL. A man, fifty-seven years old, presented himself a year and a half ago on account of stone in the bladder. The stone was found by examination with the Mercier woven silk catheter. There was considerable cystitis, and the symptoms were distressing. There was very little residual urine. The prostate was not particularly large. The x ray showed a large mass of stones in the bladder. Suprapubic cystotomy was performed, and twelve stones of large size were removed. The suprapubic wound did not heal. The weight of the stones had caused considerable pouching of the trigonum. At the end of five weeks the patient was operated on again, and the prostate removed. He was well in two weeks, and his urine had been perfectly clear since.

Nephrectomy for Nephrolithiasis Combined with Renal Papilloma.—Dr. WILLY MEYER presented this patient, a man, fifty-nine years of age, who had had blood and pus in the urine for fifteen months. The hæmaturia had been intermittent and not accompanied with pain, and between the attacks the patient was perfectly well, except that his urine was turbid. Cystoscopy showed the mouth of the right ureter to be pouting and emitting turbid urine. The catheter was passed easily to the pelvis of the kidney, and a small amount of bloody and turbid urine was collected from the right side. The urine from the other side was normal. On operation, a large cavity was found in the upper half of the kidney, filled with innumerable small calculi. In one of the calices near the pelvis there was a tumor which proved to be a papilloma. Dr. Meyer believed the tumor was secondary to the presence of the calculi.

Hypernephroma.—Dr. ALBERT A. BERG presented specimens from a case of hypernephroma that had occurred in the service of Dr. Brill at Mt. Sinai Hospital. The patient died before an operation could be done, and the specimens were obtained at the autopsy. Besides the kidney, the tumor had involved both renal veins, the vena cava, the liver, the heart, and the lungs. Dr. Berg dwelt especially upon the question of the occurrence of hæmorrhage in hypernephroma and upon the apparent primary formation of hypernephro-

mata in organs of the body other than the kidney, especially in the shafts of the long bones. As to bleeding in cases of hypernephroma, it had been his experience that this was the exception; in most of his cases there had not been noticed any macroscopical hæmorrhage, and during the patients' stay in the hospital there had been no microscopical bleeding in most instances. As to the occurrence of apparently primary hypernephromata in organs other than the kidney, in all such cases that had come to autopsy a primary hypernephroma had been found in the kidney, showing that the tumors in the other organs were really metastatic. The tumor in the kidney might not be palpable or give any signs of its presence, and the metastases might be found years before the tumor in the kidney was apparent.

Dr. N. E. BRILL gave the clinical history of the case in detail. The right kidney was the seat of a large hypernephroma, which left at the upper pole a mere shell of kidney structure. The most important metastasis was in the lumen of the inferior vena cava, the growth having broken through the renal vein and invaded the lumen of the vena cava by contiguous growth. It occluded the vessel almost completely, and extended from the iliac vein nearly up to the right ventricle of the heart. The heart was also the seat of a metastasis.

Dr. BROWN inquired whether the adrenal was removed with the other organs, and whether or not it was involved in the malignant process. He spoke of a case he had had in which it was found at the autopsy, three months after an operation, that a mass of the adrenal body had remained. This case showed metastases in the renal vein, abdominal aorta, liver, and lungs. Dr. Brown thought that hæmaturia was a very variable symptom in hypernephroma. In some cases an early hæmorrhage might not be noticed by the patient. He was of the opinion that in the majority of the cases hæmaturia was in evidence at some time during the course of the disease. He presented a kidney showing a small adrenal growth. The patient had died without an operation, after having had constant hæmaturia for five or six months.

Dr. BERG said that the adrenal body was not involved in the malignant process. The question of bleeding in this condition was very important. Most of his patients had had no bleeding. It was hard to state that some time or other there was no microscopical hæmorrhage. Hypernephroma seemed to be more frequent than was generally supposed.

Multiple Renal Calculi; Secondary Nephrectomy for Renal Fistula; Prostatectomy.—Specimens were presented by Dr. CHARLES H. CHETWOOD. The first one consisted of ten stones removed from the kidney of a boy of eighteen, who gave a history of sudden pain in the right loin, which had continued from early youth. There was hæmaturia at four or five years of age, followed by several subsequent attacks. An x ray examination was unsatisfactory. Recovery had taken place.

The second specimen was a kidney removed for renal fistula. The patient, a boy, was thrown down stairs while playing, and was supposed to have sustained an injury involving the abdominal viscera. He was taken into St. John's Hospital, and the abdomen opened. A hæmatoma was found under the liver, and this was drained. The boy recovered. Later he had a tumor, and the abdomen was again opened and a cyst found. Another wound was made behind, and a large hydro-nephrotic cyst drained. He came under Dr. Chetwood's care four months later, with a large fistula in the right loin. The wound was enlarged, and the ureter was found to be completely occluded. Nephrectomy was done, followed by uninterrupted recovery.

The third case was one of prostatectomy in a man, seventy-nine years old. He had suffered with reten-

tion for five years, and had occlusion of the urethra. It was necessary to aspirate him suprapubically. He had polyuria and albuminuria. Preliminary perineal drainage effected, and a week afterward the prostate was removed. Recovery ensued, with a return of voluntary normal urination.

Tuberculosis of the Prostate.—This patient was presented by Dr. COLIN LUKE BEGG. The family history was negative, except that the mother had had a large tumor removed from her breast three years before her death. There was no tuberculosis in the family. The patient was twenty-eight years of age. He had no venereal history. Fifteen years ago he was suddenly attacked at night with sharp, shooting pains in the perinæum and rectum, with a desire to defæcate and urinate. These were so severe as to cause fainting. A similar attack occurred six months later, lasting twenty minutes. He had had these attacks every six months until three years ago. They were relieved by drinking two glasses of water. He could not urinate during the attacks. He never passed any blood. During the last three years the attacks had been more frequent, having occurred once a month. Ejaculation on intercourse during this period had been slow and painful. One year ago the urine was microscopically normal. The prostate was enlarged and sensitive, especially on the left side. The seminal vesicles were both enlarged. At times during the past year the vesicles had been stripped and the prostate massaged, giving some relief. Six weeks ago, at night, the patient had sudden retention of urine. The next morning the urine was drawn with a catheter, and was clear. These attacks were repeated on four different occasions. He now complained of dull pain in the rectum and perinæum, lasting a few minutes. He urinated fifteen times a day and twice at night. The urine had at no time shown any macroscopical evidence of blood. No tubercle bacilli were found. During the last week there had been shreds in the first urine, and pin point particles in the second and third glass specimens. No stricture or vesical calculus could be detected. Examination showed the prostate enlarged and hard, especially on the left side, and tender; and in the left lobe there was a nodule of about the size of an almond. There could be felt with the examining finger a small fluctuating mass of about the size of a walnut, outside of and toward the apex of the prostate and on the left side, which became smaller on pressure. This mass increased in size when pressure was made on the left lobe of the prostate. Dr. Berg had diagnosticated the case as one of tuberculous abscess of the prostate which had ruptured through the capsule of the gland into the tissues between the prostate and the rectum.

Prostatic Hypertrophy.—Dr. WILLY MEYER presented prostates removed from three patients, and dwelt particularly upon the fact that the size of the gland did not determine the amount of trouble to the patient. He had seen patients with very small prostates, suffering from retention. He thought the cystoscope should be used in every case of prostatic hypertrophy.

Dr. L. BOLTON BANGS said that his experience was in accord with that of Dr. Meyer. He thought the symptoms in some cases of prostatic hypertrophy were largely due to a disturbance of the nervous system, causing a spasm of the cut off muscle. He thought too much was said about the technique of prostatectomy, and that it was merely a matter of common sense. Neither the perineal nor the suprapubic operation was suited to every case.

Nephrectomy for Congenital Hydronephrosis.—The specimen was shown by Dr. MARTIN WARE. The patient was fourteen years old, and had had pyuria since the age of six. The urine was very turbid, and the patient had frequent urination. His general health

was good, but he was very much under size. It required irrigation with two litres to get the bladder clear, and it held 100 c.c. The cystoscopic picture was unsatisfactory, but showed that the bladder was intensely red. Both ureteral openings were enlarged and red. Nothing definite could be learned from the appearance of the orifices of the two ureters. Repeated x ray pictures showed no calculi. The indigo-carmin test was employed. The right kidney did not excrete the blue, while the left one did. Nephrotomy was done on the right side, and that kidney and its surroundings were found to be normal, but the ureter dilated. After his recovery from this operation the patient was again examined with the cystoscope and the left ureter catheterized. There was a pocket alongside the left ureter into which a catheter was introduced. This being taken for a diverticulum, suprapubic cystotomy was done, and a very large ureter found. The patient was again operated on, and the left hydronephrotic kidney and ureter were removed. The patient still had decided pyuria.

Endothelioma of the Testicle.—This specimen, presented by Dr. WARE, had been removed from a man of forty-five. There was a large metastasis in the abdomen, yet the growth in the testicle was removed so that Coley's serum could be given a better chance to act on the metastasis alone. No improvement had occurred, notwithstanding the use of large doses of Coley's fluid. There was no doubt as to the nature of the growth, but examination showed it to be endotheliomatous carcinoma.

Book Notices.

Darmatonie (Dyspepsia nervosa, Dyspepsia intestinalis flatulenta). Von Hofrat Dr. FRIEDRICH CRAMER. München: Lehmanns, 1906.

Dr. Cramer uses the term intestinal atony for what has hitherto usually been called nervous dyspepsia, especially when intestinal symptoms predominated, or what Boas has called flatulent intestinal dyspepsia. While the introduction of a new word seems scarcely advisable and the term intestinal atony is already used to express that paralytic condition of the intestines with which surgeons are familiar after infection of the peritonæum, there is no doubt that the present study of the symptom complex usually spoken of as nervous intestinal dyspepsia contains some very valuable practical points. Dr. Cramer has discussed much more than the set of symptoms usually associated with constipation. He has shown how many of the nervous symptoms of modern life are caused by that defective action of the lower part of the digestive tract which was formerly neglected because nearly all abdominal symptoms were referred to the stomach. The monograph, even though it does not lead to any definitely practical conclusions at the present time, is extremely suggestive. A distinguished German authority has said that in the map of digestive affections the part attributable to intestinal causes is as yet quite blank. Some of the unknown paths in this region have now been explored by Dr. Cramer.

Das Rettungs- und Krankenbeförderungswesen im deutschen Reiche. Nach dem Material der auf Anregung des Zentral-Komitees für das Rettungswesen in Preussen von den deutschen Bundesregierungen erhobenen Umfrage in Auftrage des Zentral-Komitees bearbeitet vom Generalsekretär Professor Dr. GEORGE MEYER, Berlin. III. Ergänzungsband zum klinischen Jahrbuch. Mit 10 Kurventafeln und 4 Karten. Jena: Gustav Fischer, 1906.

We have here a statistical compilation dealing in a very thorough manner with the methods and organiza-

tion in the German Empire of the different agencies for rescue work. Life saving stations on the seacoasts, instruction in first aid to the injured for the police and fire departments, emergency hospitals, ambulance systems, the organization of the Red Cross, and the provision made in mines and by railways and large manufacturing concerns for the protection of their employees and for their relief in case of accident are among the important matters discussed. The impression produced is that in the highly developed industrial civilization of modern Germany human life is more carefully safeguarded than here in America.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended June 2, 1906:

| Smallpox—United States | | | |
|------------------------------|----------------|--------|----------|
| Places. | Date. | Cases. | Deaths. |
| California—Los Angeles..... | May 12-19..... | 6 | |
| Colorado—General..... | Apr. 1-20..... | 10 | |
| Florida—General..... | May 19-26..... | 2 | |
| Illinois—Galesburg..... | May 19-26..... | 1 | |
| Kentucky—Covington..... | May 19-26..... | 1 | |
| Louisiana—New Orleans..... | May 12-19..... | 1 | 1 |
| Massachusetts—Boston..... | May 19-26..... | 2 | |
| Massachusetts—Quincy..... | May 19-26..... | 2 | |
| Mississippi—Natchez..... | May 12-19..... | 1 | Imported |
| Missouri—St. Louis..... | May 19-26..... | 2 | |
| New York—New York..... | May 19-26..... | 10 | |
| Ohio—Cincinnati..... | May 18-25..... | 2 | |
| Oklahoma—Oklahoma City..... | May 12-26..... | 13 | |
| Pennsylvania—Allentown..... | May 19-26..... | 1 | Imported |
| Pennsylvania—Lancaster..... | May 19-26..... | 2 | 1 |
| Pennsylvania—Pittsburgh..... | May 12-19..... | 2 | |
| Tennessee—Knoxville..... | May 19-26..... | 1 | 1 |
| Texas—General..... | Apr. 1-30..... | 76 | |
| Virginia—Petersburg..... | May 19-26..... | 1 | |
| Wisconsin—Appleton..... | May 19-26..... | 4 | |
| Wisconsin—Marinette..... | May 12-26..... | 1 | |
| Wisconsin—Milwaukee..... | May 19-26..... | 1 | |

| Smallpox—Foreign. | | | |
|------------------------------------|---------------------|--------|---------|
| Places. | Date. | Cases. | Deaths. |
| Africa—Cape Town..... | Apr. 14-21..... | 5 | |
| Australia—Brisbane..... | Mar. 31-Apr. 7..... | 1 | |
| Australia—Brisbane..... | Mar. 24-31..... | 3 | 1 |
| Australia—Perth..... | Mar. 24-31..... | 1 | |
| Austria—Freudenthal..... | Apr. 14-21..... | 2 | |
| Austria—Gallitz..... | Apr. 8-14..... | 7 | |
| Austria—Vorarlberg..... | Apr. 14-21..... | 2 | |
| Chile—Antofagasta..... | Apr. 1-31..... | 23 | |
| Chile—Iquique..... | Apr. 22-29..... | 3 | |
| Gibraltar..... | Apr. 29-May 6..... | 2 | |
| Great Britain—Bristol..... | May 5-12..... | 2 | |
| Gt. Britain—Newcastle-on-Tyne..... | May 5-12..... | 2 | |
| Greece—Athens..... | May 6-13..... | 1 | |
| Greece—Patras..... | Apr. 10-17..... | 4 | |
| India—Calcutta..... | Apr. 13-20..... | 174 | |
| India—Karachi..... | Apr. 22-29..... | 20 | |
| India—Madras..... | Apr. 21-27..... | 31 | |
| India—Rangoon..... | Apr. 14-21..... | 41 | |
| Italy—General..... | May 3-10..... | 39 | |
| Netherlands, The—Rotterdam..... | May 5-19..... | 3 | |
| Russia—Moscow..... | Apr. 21-May 5..... | 25 | 8 |
| Russia—Odessa..... | Apr. 29-May 12..... | 16 | 6 |
| Russia—St. Petersburg..... | Apr. 21-28..... | 7 | 1 |
| Spain—Barcelona..... | May 1-10..... | 11 | |
| Spain—Seville..... | Apr. 1-30..... | 34 | |

| Yellow Fever—Foreign. | | | |
|-----------------------|---------------|--------|---------|
| Places. | Date. | Cases. | Deaths. |
| Mexico—Merida..... | May 6-12..... | 3 | 2 |

| Cholera—Foreign. | | | |
|---------------------|-----------------|--------|---------|
| Places. | Date. | Cases. | Deaths. |
| India—Calcutta..... | Apr. 14-21..... | | 86 |
| India—Rangoon..... | Apr. 14-21..... | | 1 |

| Plague—Insular. | | | |
|----------------------|-------------|--------|---------|
| Places. | Date. | Cases. | Deaths. |
| Hawaii—Honolulu..... | May 24..... | | 1 |

| Plague—Foreign. | | | |
|-----------------------------------|-----------------|--------|----------|
| Places. | Date. | Cases. | Deaths. |
| India—Calcutta..... | Apr. 14-21..... | | 207 |
| India—Karachi..... | Apr. 22-29..... | 307 | 246 |
| India—Rangoon..... | Apr. 14-21..... | | 65 |
| Peru—Lima..... | Apr. 23-30..... | 3 | 1 |
| Peru—Trujillo..... | Apr. 23-30..... | 4 | 1 |
| Peru—Matusefu..... | Apr. 23-30..... | 1 | |
| Strait Settlements—Wellesley..... | Apr. 18..... | | Present. |

Public Health and Marine Hospital Service:

List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the Public Health and Marine Hospital Service for the seven days ending May 30, 1906:

AMESSE, J. W., Passed Assistant Surgeon. Directed to

proceed to Stapleton, N. Y., for special temporary duty, upon completion of which to rejoin station at Ellis Island, N. Y.

BLUE, RUPERT, Passed Assistant Surgeon. Relieved from special temporary duty at San Francisco, Cal., and directed to proceed to Washington, reporting at Bureau.

EBERT, H. G., Assistant Surgeon. Relieved from duty at Seattle, Wash., and assigned to duty on the U. S. Revenue Cutter *Perry*.

FROST, W. H., Assistant Surgeon. Relieved from duty at Baltimore, Md., and assigned to duty on the U. S. practice ship *Chase*.

KENNEDY, S. R. M., Acting Assistant Surgeon. Granted leave of absence for four days, from May 27, 1906.

LLOYD, B. J., Passed Assistant Surgeon. Leave of absence granted Passed Assistant Surgeon Lloyd for fifteen days from May 1, 1906, revoked.

LLOYD, B. J., Passed Assistant Surgeon. Relieved from duty at Guayaquil, Ecuador, and directed to proceed to Fort Stanton, N. M., for duty and assignment to quarters. Above order revoked May 26, 1906.

PETTYJOHN, JOSEPH, Assistant Surgeon. Assigned to duty on the U. S. Revenue Cutter *Thetis*.

RICE, W. E., Acting Assistant Surgeon. Granted leave of absence for five days, from June 2, 1906.

WATTERAM, M. H., Pharmacist. Relieved from temporary duty in San Francisco, Cal., and directed to rejoin station in Chicago.

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the week ending June 2, 1906:

CROSBY, WILLIAM D., Major and Surgeon. Granted fourteen days' leave of absence.

DUNCAN, LOUIS C., First Lieutenant and Assistant Surgeon. Granted fifteen days' leave of absence.

DUVAL, DOUGLAS F., Captain and Assistant Surgeon. Leave of absence extended twenty days.

EKWURZEL, GEORGE M., First Lieutenant and Assistant Surgeon. Ordered to proceed from West Point, N. Y., to the Army General Hospital, Washington Barracks, D. C., for temporary duty.

GRISSINGER, JAY W., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Jay, N. Y., and ordered to Fort Warren, Mass., for duty.

WHITMORE, E. R., First Lieutenant and Assistant Surgeon. Order of relief from duty at Fort Jay, N. Y., and assignment to duty at Fort Warren, Mass., revoked.

Navy Intelligence:

Official List of Changes in the Medical Corps of the United States Navy, for the week ending June 2, 1906:

BROWN, E. M., Passed Assistant Surgeon. Detached from the Naval Hospital New York, N. Y., and ordered to duty in the department of government and sanitation, Ancon, Panama.

DOLLARD, H. L., Acting Assistant Surgeon. Appointed acting assistant surgeon from May 26, 1906.

FARENHOLT, A., Surgeon. Ordered to the *Independence*.

IDEN, J. H., Passed Assistant Surgeon. Detached from the Naval Hospital, Newport, R. I., and ordered to the *Columbia*.

KINDLEBERGER, C. P., Surgeon. Detached from the *Independence* and ordered to the Asiatic Station.

LEE, A. E., Assistant Surgeon. Appointed an assistant surgeon, with the rank of lieutenant, junior grade, from May 9, 1906.

PERSONS, R. C., Medical Director. Detached from duty in command of the Naval Hospital, Norfolk, Va., and ordered to duty in command of the Naval Hospital, Mare Island, Cal.

SIMONS, M. H., Medical Director. Detached from duty in command of the Naval Hospital, Mare Island, Cal., and ordered to duty in command of the Naval Hospital, Philadelphia, Pa.

Births, Marriages, and Deaths.

Married.

BLOOM—WENBAN.—In New Orleans, on Thursday, May 31st, Dr. J. D. Bloom and Miss Mary Rose Wenban.

BROWN—STOUT.—In Philadelphia, on Wednesday, May 30th, Dr. Edwin Brown and Miss Aida Stout.

GOLDBERG—GOOD.—In Philadelphia, on Saturday, June 2nd, Dr. Harold Goldberg and Miss Florence Good.

KOUWENHOVEN—ATLEE.—In Philadelphia, on Thursday, May 24th, Dr. John B. Kouwenhoven and Miss Grace Atlee.

LUHR—PEARSALL.—In Wilmington, Delaware, Dr. Alfred L. Luhr, of Buffalo, N. Y., and Mrs. Frances S. Pearsall, of Coatsville, Pa.

THOMAS—SHAABER.—In Reading, Pennsylvania, on Wednesday, June 6th, Dr. Dillard Jefferson Thomas and Miss Margaret Amanda Shaaber.

VAN BEUREN—MOHLMAN.—In New York, on Saturday, May 26th, Dr. Frederick Van Beuren and Miss Jessica Mohlman.

Died.

ALLEN.—In Gibraltar, Spain, on Wednesday, May 30th, Dr. Charles Warrenne Allen, of New York, aged fifty-one years.

BETTMAN.—In Chicago, on Friday, May 25th, Dr. Boerne Bettman, aged forty-nine years.

BOMBAUGH.—In Baltimore, on Thursday, May 24th, Dr. Charles Carroll Bombaugh, aged seventy-eight years.

BROWN.—In Philipsburg, Pennsylvania, on Thursday, May 31st, Dr. Paul R. Brown. United States Army.

DENNISTON.—In Ovid, N. Y., on Thursday, May 24th, Dr. John Denniston, aged sixty-two years.

EADS.—In Chicago, on Sunday, May 27th, Dr. Darwin D. Eads, of Paris, Kentucky.

EDWARDS.—In Raritan, N. J., on Wednesday, May 23rd, Dr. J. F. Edwards.

ISAACS.—In Philadelphia, on Saturday, May 19th, Dr. Judah Isaacs, aged seventy-two years.

KENT.—In Jamestown, N. Y., on Sunday, May 20th, Dr. Walter H. Kent, aged fifty-five years.

KETCHUM.—In Mobile, Alabama, on Tuesday, May 29th, Dr. George Augustus Ketchum, aged eighty-one years.

LONG.—In Chester, Pennsylvania, on Sunday, May 27th, Dr. F. Farwell Long, aged forty-one years.

LONGLEY.—In Glade Spring, Virginia, on Friday, May 25th, Dr. Edmund Longley, aged eighty-seven years.

MUELLER.—In Dyersville, Iowa, on Thursday, May 17th, Dr. N. J. A. Mueller, aged sixty-one years.

OWEN.—In Evansville, Indiana, on Sunday, May 20th, Dr. John E. Owen, aged fifty-one years.

QUINN.—In Jeffersonville, Ohio, on Thursday, May 17th, Dr. Homer Summerville Quinn, aged sixty-eight years.

RHOADES.—In Hoboken, N. J., on Wednesday, May 30th, Dr. Thomas Cutler Rhoades, aged sixty-one years.

RUSH.—In Chicago, on Monday, May 21st, Dr. Edwin F. Rush.

SHEPARD.—In Batavia, N. Y., on Saturday, May 26th, Dr. Francis L. Shepard, of Buffalo, aged thirty-eight years.

SKEEN.—In Ogden, Utah, on Monday, May 14th, Dr. Lyman Skeen, aged thirty-five years.

WEIGEL.—In Rochester, N. Y., on Thursday, May 31st, Dr. Louis A. Weigel, aged fifty-two years.

WHEELER.—In Buffalo, N. Y., on Tuesday, May 22nd, Dr. Isaac G. Wheeler, aged seventy-four years.

WILTON.—In Washington, D. C., on Tuesday, May 22nd, Dr. Albert H. Wilton, United States Army.

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WHOLE No. 1437.

Lectures and Addresses.

THE SKENE MONUMENT.*

BY A. JACOBI, M. D., LL. D. (ANN ARBOR,
COLUMBIA, YALE),
NEW YORK.

Monuments are rare in America, except those erected in honor of soldiers. Is it because there are no great men to revere and remember?

We have seen the useful and much admired pass away, and beyond an occasional recollection, mostly among their neighbors and friends, or a casual reference to their doings and merits, they have disappeared from the horizon like some dim, distant history. Are we less grateful than other peoples, we who have so much more reason to be thankful than they? Or is our democracy, the bone and marrow of this blest land, so conceited and shortsighted as to level the great and small, the genius and the sot, the altruistic benefactor and the self asserting egotist?

What is there in Alexander Skene that selected him for immortality? He died six years ago and appears to require no resuscitation at our hands, for he has lived all this time and will continue to live in many pulsating hearts and grateful memories.

His early education was obtained in Scotland, his professional training in Canada, in Michigan, and in the Long Island Hospital College. His medical service was both military and civil. He was a general practitioner and did general surgical work until he devoted himself to his life specialty. Even when engrossed in special work he retained a select private and consultation practice. His literary work in magazines and books, though mostly of a specialistic nature, would connect him with general medical periodicals, would lead into general surgery, even into belles lettres. From 1863 on his contributions to medical literature were many. No year passed without one or more. Some were strictly surgical, some of general medical import, one dedicated to his friend, Corydon L. Ford, many anatomical and pathological; the vast majority were specialistic.

He entered a specialty at a favorable time. Amongst our great masters in medicine were Valentine Mott, Wright Post, Alfred C. Post, Frank H. Hamilton, and those Brooklynites Daniel,

Ayres and Joseph C. Hutchison, whom you must never forget, for each one was a *præsidium et dulce decus*. Every one was a man of broad culture, classical education, universal medical information, and general—though preferably surgical—practice. From a similarly broad foundation Skene developed into a specialist; so he became one of the ideal specialists, who are growing scarce in a period where specialists are so many and doctors so few—for in his scientific evolution, in his practice, and in his professional relations, he was broad, far sighted, and endowed with a wide horizon, never wanting to lose nor ever losing his clear appreciation of the human body as an organism, and not a machine the wheels of which could or must be mended independently like those of an engine.

Thus it happened that where he was we knew there was an authority on many things and a sound teacher; in other things, a searching, though modest, listener and questioner. Thus, it was self understood that he was from time to time the leader and presiding officer in many of our gatherings, became corresponding honorary fellow in many American and European learned societies, and finally the recipient of a high degree from a Scotch University. Thus, he was a connecting link in the disjunct parts of medicine and between two hemispheres, a citizen of two worlds.

Father Homer spoke of his like when he said (*Odyssey*, xix, 332): "Whoever shows himself to be beyond blame and creates things superior, his fame is spread far and near by the strangers amongst the men of the world, and many praise him for the good he does." You of Brooklyn who knew and admired him know the good he has done to you and us. Those whom he served, those whom he relieved, with whom he sympathized in their distress, whose hopes he revived, whose energies he restored—will not, must not, forget him.

But there was more in Skene than an individual physician who had attended individual cases and earned individual thanks and veneration. It is fortunate for you that the community has many such, who do good wherever it is required and more than credit is given. I know what I speak of when I say that you have many among you who act on the principle of the old ditty:

"Do good;
Throw it into the sea;
Though the fish may not see it.
The Lord beholds it."

* Address delivered at the unveiling of a monument to Dr. Alexander J. C. Skene, Brooklyn, May 5, 1906.

That is what *he* did, but he did more, for he was a greater man. Whoever was merely a much beloved physician would not be honored with a public monument. He was a great citizen, because a great physician; and though he never may have been intimately connected with the practical politics of the city or the State, his work as a great and good physician created around him the atmosphere and placed upon his head the crown of civic virtue. That is as it should be. It is not true that the physician is without influence in the community, even he who takes no personal practical interest in public affairs, provided he practices and teaches medicine as a humane and social office; and though he be less eloquent than industrious, less brilliant than strictly honorable, he leaves his impress on his neighbors and his town, and on his students and colleagues all over the country. I knew well how Skene thought and felt. To him there was no more dignified position in the community than that of the physician, individually and collectively. The physician's knowledge of the requirements of individual and public health, of sanitation, of forensic affairs, makes him the statesman in the community and will give him in future, when the people will have been educated up to it, the first rank amongst all the classes and professions. That was Skene's conviction and his prophecy.

While we are waiting and working for its fulfillment, you have proved your appreciation of the man, the physician, the citizen whom you are anxious to honor. By so doing Brooklyn has honored itself. Young and old when passing this monument will remember his name, his virtues, his work in the interest of the community; and will learn how to believe in work for work's sake, in the benefactions bestowed by science and art such as his, and the beauty of ideals, whether realizable at once or in the dim future.

Original Communications.

THE D'ARSONVAL AND OTHER HIGH FREQUENCY CURRENTS, WHAT THEY ARE AND WHAT THEY WILL DO.

By HENRY G. PIFFARD, M. D., LL. D.,

NEW YORK,

EMERITUS PROFESSOR OF DERMATOLOGY, NEW YORK UNIVERSITY; CONSULTING SURGEON, CITY HOSPITAL.

To Professor A. d'Arsonval, of Paris, we owe the introduction of high potential and high frequency currents into clinical medicine. He was not, from the standpoint of physics, the discoverer of these currents, but he was the first to devise the means whereby they could be utilized in the treatment of disease. Of their great value his compatriots were soon satisfied, and their use gradually spread to other countries; and all that was originally claimed for them, and more, has been confirmed by the experience of all who have understood their nature and have made practical use of them under proper conditions and restrictions. In France, where they

originated, in Germany and in England, the d'Arsonval currents have proved their value in the hands of those who have employed them intelligently and systematically; and so far as I am aware, no attempt has been made to confuse the mind of the profession by giving the name of high frequency to currents which bear no physical relationship to them. Unfortunately, such has not been the case in America, as manufacturers and even some medical writers have confused them with currents from which the essential element, and from which they derive their name, was entirely lacking.

I have endeavored on one or two previous occasions to explain the nature of these currents, but despite this, I find that even at a recent date (1905), errors of theory and errors of technics have been promulgated from sources which certainly should have been better informed.

I shall, therefore, again go into this matter, and in a way that I believe will make it plain even to those who possess but an elementary knowledge of the fundamental principles of electrical science. The matter will most easily be made clear, I think, by the description of a few experiments.

If we connect an electroscope to one pole of any source of high tension electricity, whether the same be a static machine or the secondary terminals of a coil, and set the machine in action the electroscope will immediately become charged, as evidenced by the movement of the gold leaf or other indicator; and further, the discharge will have a potential of several thousand volts. If we discharge the electroscope and bring it quite near one of the poles, it will again charge, but more slowly and to a lower potential. The current which then charges the instrument is not a high frequency current.

If now we attach a Leyden jar to one of the poles (for instance the positive) of a static in action the interior of the jar will become charged positively, and the outside by induction will be charged negatively. If the electroscope be then connected to the outside of the jar it will become negatively charged. This charging current is NOT a high frequency current.

If a patient be placed on an insulated table, and connected with, say the positive pole of a static machine as in the Morton wave current, he will become charged, and at the same time give off from his person the current in hertzian waves as fast as it is received.

If now an electroscope be placed at a little distance it will become slowly charged up to a potential of one thousand volts or more. This is still more marked with the static "bath." In this experiment no jar is connected to the machine, and there is no connection between it or the patient and the electroscope except the intervening air. This charging current is NOT a high frequency current as commonly understood.

Let us now vary the experiment by attaching a Leyden jar to each of the terminals of a static machine. When this is in action one of the jars receives a positive charge interiorly and the other a negative one, the outside of the jars of course have charges of opposite sign. As like electricities repel and unlike attract each other, there will naturally be one intense attraction between the two, and if they be connected by a short metallic conductor a current

will instantly pass, which will be oscillatory in character (Manders).¹

If the outer armature of either one of the jars be connected with the electroscope, I find that it immediately becomes strongly charged. If, however, both jars be connected with the charging device of the electroscope, the charge will be insignificant or nil. This tends to confirm Manders's statement.

If, however, according to Manders, a good conductor be replaced by a poor one, such as the human body, the character of the current changes, and it becomes an interrupted intermittent unidirectional current, on which is superimposed an oscillatory current of low frequency. Such is the static induced current of Morton; and it is to the interruptions that the tetanizing effect of this current is to be attributed.

Owing to the tetanizing effect, I found it impracticable to place the human body in series with the electroscope and therefore substituted a well moistened porous brick. With a spark gap of one inch, the electroscope promptly charged, showing a potential of about one thousands volts. With lengthened spark gap the potential increased. This experiment clearly shows that the unidirectional current is the greatly predominating feature, thus further confirming the statement of Manders. The oscilloscope also shows this in a striking manner.²

Although the number of interruptions in the static induced current is very much greater than can be attained by any mechanical device they do not possess the true oscillatory character of the d'Arsonval currents, in which the oscillations are declared by competent physicists to attain a frequency of fifty millions or more per second. Tested with a hot wire galvanometer in series with the outer armatures of the jars and a spark gap of one quarter inch (the limit of human endurance) the reading was 250 milliamperes. When, however, the galvanometer was placed in shunt to a suitable impedance as in the d'Arsonval it was necessary to increase the spark gap to one half inch before the same reading was obtainable.

The most striking difference, however, between the two currents is in their physiological behavior. With a spark gap of one eighth inch the static induced current is already painful, while with the d'Arsonval current a spark gap of three or four inches is frequently employed.³

The d'Arsonval high frequency currents are three in number, namely the derived current or shunt current (*courant en dérivation*), the "autoconduction" current, and the autocondensation current. The essential features connected with the production of these currents are; (1) a suitable capacity, either Leyden jars or a flat condenser; (2) a solenoid (d'Arsonval) or a spiral (Piffard).⁴

If a static machine is employed as the source of high tension energy, the large jars are put in place and the ends of the solenoid or spiral are connected

to the outer armatures of the jars. If cords and electrodes be now connected with the outer armatures of the jars, the patient holding the electrodes with the machine in action, will receive the d'Arsonval shunt current. This method of connection, however, should never be made use of. I have seen such connection and allude to it here simply to point out its dangers. If by any chance the connection between either end of the solenoid and one of the jars should be broken or become loose, the current would no longer be a d'Arsonval, but would be the Morton current, and if there was a spark gap of three or four inches, as would be proper with d'Arsonval, the effect on the patient would be extremely disastrous,—possibly fatal. So far as I am aware this accident has never happened, but I deem it well to point out the possibility of its occurrence. The cords should be invariably connected to the solenoid, for if anything should break loose it would be a case simply of "nothing doing," and the attachments could be readjusted at leisure. If the outer armature of the jar on the negative side of the machine be grounded, a machine with fourteen revolving plates revolving at a speed of about four hundred revolutions per minute will yield a current through the patient of about one hundred and fifty milliamperes⁵ with the pole pieces separated three inches. The current is imperceptible to the patient if the electrodes are in firm contact with the skin. If, however, one of them is removed a short distance from the skin one half to three quarters of an inch a sharp spark will pass.

If it is desired to employ the current for its effect on the general system, a very convenient method is to fix a couple of brass balls two or three inches in diameter to the arms of a comfortable chair. These are grasped by the hands of the patient after the proper connections have been made.

If a local application is to be made, one electrode is brought into firm contact with any convenient part of the body and the other applied to the part through the medium of a metallic, carbon, or glass vacuum electrode furnished with a suitable handle. When the applicator is applied directly to the surface, even of a mucous membrane, there is little sensation except of slight warmth. If, however, the electrode be withdrawn a little, sparks more or less painful will pass between it and the patient.

The second of the d'Arsonval high frequency currents is termed by him autoconduction. The arrangement employed consists in the use of a large solenoid or cage inside of which the patient stands or sits. This large solenoid is connected to the smaller one already mentioned.⁶

The third d'Arsonval current has been termed by him autocondensation. As usually administered a couch or *chaise longue* is used, with a metallic plate under the cushion. This is connected to one end of the small solenoid or spiral (Piffard) while the patient is directly connected to the other end of the solenoid. The present writer has found the couch cumbersome and inconvenient and has substituted

⁵ Alternating and oscillating currents are measured with a hot wire galvanometer. The ordinary meter with a moving or a fixed magnet (Weston type) measures direct currents only.

⁶ I do not describe the connections in detail, as I have done so elsewhere (*Medical Record*, loc. cit.), and I am writing the present paper rather for the information of those who are not using these currents, than for those who employ them in their general or special practice. They will be found correctly described in most of the textbooks, though not in all.

¹ Manders, *Medical Electricity and Radiology*, October, 1903.
² This instrument in a slightly more complicated form is described in full detail in papers by Reginald Morton (*Medical Electricity and Radiology*, December, 1905) and Leduc (*Archives de l'électrothérapie médicale*, February 25, 1906), under the names of "oscillograph" and "ondoscope." It enables one instantly to detect whether a current is unidirectional or oscillatory, and to estimate quite accurately the proportion of inverse current in an x ray tube.

³ In the experiments with the electroscope and galvanometer thus far spoken of the static machine was the source from which the original current was derived. Experiments with a coil will be referred to later.

⁴ *Medical Record*, October 31, 1903.

therefor the armchair already mentioned, and a cushion containing the armature and the necessary dielectric. (*Archives of the Röntgen Ray*, October, 1904). The cushion is connected to one terminal of the spiral, while the other end of the spiral is attached to a chain connecting the two balls of the chair. The patient sits on the chair and places his hands on the balls. With the machine in action he becomes virtually the outer armature of a secondary condenser. If the arrangement be actuated by a static machine, the effect will be intensified by grounding the outer armature of the jar on the negative side of the machine. A hot wire galvanometer in series with the patient gives a reading of about two hundred and fifty milliamperes. Tested with an oscilloscope the current is found to be oscillatory with slight preponderance of effect on one side.

These are the three high frequency currents of d'Arsonval, at least so far as they can be imitated with a static machine. In France and other parts of Europe the coil is much more frequently used as the generator of the high potential current that actuates the subsidiary apparatus.

In using a coil the terminals of the secondary current are connected to the inner armatures of the Leyden jars, while the outer armatures are connected together through the medium of a solenoid (helix), spiral, or other suitable impedance.⁷ The patient may then be placed in shunt to the helix, or a chair, couch, or cage may be attached as already described in connection with the static machine.

It must be distinctly understood that the production of the currents of d'Arsonval, involve the use of a condenser and a suitable impedance; and that currents taken direct from the static machine without the intervention of these elements, no matter at what speed the plates may be run, belong to an entirely different category.

The d'Arsonval currents from a coil installation differ from those obtained with a static machine, chiefly in the lower potential and higher ampérage of the former. While two hundred and fifty milliamperes are about the limit from a static machine of moderate size, currents of from five hundred to one thousand milliamperes are readily obtained from a coil.⁸

The d'Arsonval currents, however, from different coil installations may not necessarily be identical. The modern coil requires an independent interrupter in the primary circuit, and the ones most in use are the mercury break and the Wehnelt or Caldwell electrolytic interrupters. The Wehnelt is without doubt the most popular with expert radiographers, especially when heavy currents and quick exposures are employed, while radiotherapeutists and electrotherapeutists usually employ the interrupter furnished by the manufacturer of their apparatus without special inquiry or investigation into the character of the current it gives. My own experience is confined to the use of electrolytic interrupters.

My Wehnelt arranged chiefly for rapid radiography does not work steadily with a current of less than six or seven ampères. Under this current the oscilloscope indicates an oscillating current. The di-

rect or "break" current shows a bright spot of light at the point of the cathode terminal, and a glow extending up the wire for an inch or more. With the "make" current, however, there is no bright point, and the glow is about four-fifths as long; and this I find true with currents of twenty or more ampères. The make current may be nearly quenched with the aid of a Villard valve. With the Caldwell working at five ampères there is a very much greater difference between the break and make currents. The bright spot is less apparent while the cathode glow of the "break" current is about three times as long as that of the "make" current. With a good valve this make current is entirely obliterated. With a heavier current of twelve or fifteen ampères, there is a little more evidence of inverse but completely obliterated with the valve.⁹

I have for several years employed the d'Arsonval currents, using both the Wehnelt and the Caldwell interrupters. For some time past, however, I have given preference to the Caldwell, but without being able to give a valid reason for the choice. The oscilloscope furnishes the reason.

The potential of the d'Arsonval currents is lower than that of the current that excites them, and shortly after their promulgation Oudin, of Paris, introduced his *resonator*, which is simply a cylinder about eight inches in diameter and twenty in length. Around this a copper wire is wound and one end of it connected to the d'Arsonval solenoid. The other end is free, and from it, when the apparatus is in action, a fine electric spray or effluve¹⁰ is given off under a much higher potential than the original. This effluve can then be conducted to any part that one may desire to locally affect.

The next attempt, so far as I am aware, to obtain a high frequency therapeutic current of higher potential than the d'Arsonval was made by myself some six years ago. (*Medical Record*, October 20, 1900.) The apparatus was first used in connection with a static machine and subsequently received the name of *hyperstatic transformer*. In this the essential features of the d'Arsonval arrangement (condenser and solenoid) are preserved, with the addition of a fine wire coil concentric with the solenoid. In other words a simply step-up transformer and a pair of Leyden jars.

The terminals of the fine wire secondary give off an effluve that is used for local applications. From this appliance sparks or sprays may be obtained at will, the sparks are not very painful, the sprays are painless. The current is oscillatory, the oscillations being apparently of equal volume in each direction.

A transformer so connected that it will give a maximum output from a static machine will not behave in a satisfactory manner when used in connection with a coil. A slight change, however, in the relations of the primary to the secondary (of the transformer) adapts it to satisfactory use with a coil, giving out a thick, warm effluve, and when de-

⁷The use of a valve in radiography or radiotherapy, quenching as it does the inverse current through the tube, greatly diminishes the danger to the operator (see article by the author in *The New York Medical Journal*, January 6, 1906). In electrotherapy, however, the valve is not available, as it introduces an element of danger. I base this statement on a single experiment by myself on myself. I have not cared to repeat it.

¹⁰In some English and American writings this word has received an additional letter, making it "effluve." For this bastard word I can find no authority. It is not an English word, and most certainly is not good French. The word in both French and English is effluve: "The loss of electricity by atmospheric conduction or diffusion."—*Standard Dictionary*.

⁸The coupling between the turns of the solenoid the current is greatly hindered or impeded in its course between the jars, and this obstacle is vastly greater than the ohmic resistance of the conductor.

⁹The current of 750 milliamperes, but question the desirability of often going beyond 500 milliamperes.

sired, very painful sparks. As will be seen later, these sparks possess certain very useful properties.

Other high frequency installations, other than those here spoken of, have been devised at home (Strong—Boston) and abroad (Gaiffe—Paris), but I have had no practical clinical experience with them.

II.—WHAT THESE CURRENTS WILL DO.

Having in some measure discussed the Nature of high frequency currents and the manner in which they may be obtained, we next come to a consideration of their special fields of usefulness. These are both general and local, but before touching on them, it is of the first importance to investigate their effects on a person in health; in other words to consider what, if any, changes in nutrition or in other functions they are capable of effecting. Unfortunately the literature of this branch of the subject, while by no means scanty, is rather difficult of general access. It has been presented, however, in somewhat brief detail by Denoyés.¹¹

It being understood that high frequency currents may be employed with a primary intention, either of affecting the general system, or on the other hand of producing local changes only, I will first deal with those that seem to me most important in so much as they fall chiefly within the province of the general physician rather than in the domain of the specialist.

Not only d'Arsonval, but others, either in collaboration with him or independently, have by physiological experiments on men and animals determined that:

1. The number and amplitude of the respiratory movements are augmented.
2. The respiratory combustions (intake of oxygen and outgo of carbonic acid) are notably increased, d'Arsonval finding his own carbonic elimination more than doubled.
3. Tripet and Guillaume, working independently, found that there was notable increase in the rate of hæmoglobin reduction.
4. D'Arsonval and separately de Bonniot found the carbonic elimination augmented; further confirmed by Bordier and Lecomte.
5. Apostoli and Berlioz found, as a result of 761 analyses of the urine of 280 patients increased elimination of solids; confirmed by Bordier and Lecomte on animals and men (chiefly urea, uric acid, and phosphoric acid); Denoyés, Marthe, and Rouvière in collaboration, experimenting with three healthy men, examining the urine by chemical analysis, toxicity tests, and cryoscopy, found increase in the volume of the urine, together with increase of urea, uric acid, total nitrogen, phosphates, sulphates, and chlorides eliminated in twenty-four hours; and increase of the urotoxic coefficient. Cryoscopy afforded concordant evidence.

It may further be noted that in the cases of some of the animals, experimented with, there was notable loss of weight.

These facts plainly indicate the physiological action of high frequency currents, namely a stimulant to metabolism, exciting a condition of hypermetabol-

ism. The metabolic processes which broadly considered are the conversion of ingesta into egesta are by no means simple in their detail, and are in the main processes of oxidation. Hence hypermetabolism means hyperoxidation; and submetabolism means suboxidation, and this covers both the proteid and the carbon compounds.

Now, this condition of submetabolism results in the production of a greater or less degree of auto-intoxication in case elimination fails to keep pace with generation; and a condition is finally established which, though it may not for the moment materially interfere with the apparent health and comfort of the individual, finally leads to acute or chronic derangements that bear recognized names in our nosology.

It must be remembered, however, that in the child or other young animal the normal outgo is less than the intake, else there would be no increase in size or weight. When the body reaches maturity, however, there is or should be equilibrium. But with advancing years this equilibrium may be disturbed on the one hand by excessive outgo leading to loss of flesh and weight, or on the other to the accumulation of hydrocarbons and certain nitrogenized auto-intoxicants.

The means at our command for combating these conditions may be placed in two classes: (1) Pharmacals, and (2) Physical agencies. Every physician knows, or is supposed to know, what may be accomplished with the first class. Gradually we are acquiring some very useful information concerning the second, which embraces light, heat, air, water, electricity, and radioactivity. Only one of these, however, claims our present attention.

The electrical currents which are preeminently useful as direct stimulants to metabolism are the Morton wave current and the d'Arsonval high frequency currents. Although we have but little beyond clinical evidence to support this claim in behalf of the first named, this is of such a character, outside of my own personal experience, as to thoroughly satisfy me of the fact. Concerning the second, besides the detailed experimental data, we have an overwhelming mass of testimony which should be convincing to all who will take the trouble to examine it.

Of the two currents mentioned, I consider the high frequency currents the more efficient, due I believe to their higher ampérage. This statement is based on several years' experience with both currents.

The chief indications for the use of the high frequency currents are naturally such conditions as are characterized by general submetabolism, and in particular subkatabolism, except in the presence of distinct contraindications. These are the presence of acute inflammation of any of the viscera, the eruptive fevers, typhoid fever, pronounced cardiac or vascular disorder, advanced pulmonary tuberculosis, and naturally in all cases when the patient is confined to bed or to the house. Mahomet must go to the mountain, as the mountain cannot conveniently be brought to Mahomet.¹² In other words, its chief field of activity is in connection with chronic conditions. I exclude the later stages of tuberculosis through fear that the hyperkatabolism will kill the

¹¹ *Les Courants de haute fréquence*, Paris, 1902. It is to be deeply regretted that this work has not before this been translated into English. It is by far the most satisfactory book on the subject. Next in usefulness are chapters in Freund's *General Radiotherapy* (translated). Chisholm Williams on *High Frequency Currents* is at present out of print.

¹² Except, of course, where the patients' circumstances will permit of the installation of a high frequency outfit at their domicile.

patient before the increasing anabolism catches up to rescue him. As will be seen later, however, high frequency applications and especially the autocondensation current have proved of very great value in early tuberculosis, and even in cases where the disease was considerably advanced. Of this much evidence has been elicited from numerous sources, but the most satisfactory accounts are from the pen of Mr. Chisholm Williams, of London.¹³ Of forty-three patients reported on by him, in various stages of tuberculosis all but three or four made good recoveries, so that they were enabled to resume their customary vocations, and many of them were not in position to benefit by the most salutary surroundings.

In the majority of the cases treated the effect of the first few applications was higher temperature, increased diaphoresis, loss of weight, and increased bacilli in the sputum. In a short time, however, these conditions were reversed, and the disease was apparently arrested, and in many there was every clinical evidence of permanent cure. The treatment was chiefly by autocondensation sometimes combined with high frequency effluvia.

Thielle¹⁴ reports on twenty-five cases and found cough modified from the start, expectoration diminished or easier, bacilli disappear, and in only one case did they reappear.

During the past year, extended articles have appeared in the *Archives of the Röntgen Ray* by Clarence A. Wright and H. E. Gamlen on the treatment of infectious diseases (including tuberculosis) by high frequency currents. Space prevents the presentation of much additional evidence to the same effect, nearly all of which, however, is from European sources. I do not know of a single tuberculosis hospital or pulmonary sanatorium in this country in which there has been a systematic and intelligent application of these currents in this disease; nor do I know of a single practitioner whose name is specially associated with pulmonary disease who has made a trial of them.¹⁵ It must not for a moment be supposed that the use of these currents excludes the usual hygienic adjuvants, fresh air, proper food, exercise, etc. Forced feeding, however, will not be called for, as the notable increase of appetite that almost invariably accompanies the use of these currents will induce the patient to demand all the aliment he can utilize.¹⁶

¹³ High Frequency Currents in the Treatment of Some Diseases, 1903: *British Medical Journal*, October 12, 1901.

¹⁴ *Bulletin de la Société française d'électricité et de radiologie*, November, 1905. Abstract in *Archives of Physiological Therapy*, March, 1906.

¹⁵ I should be very glad to learn that I have acquired an erroneous impression as to this.

¹⁶ It is more than thirty years since the writer has taken professional charge of a case of pulmonary tuberculosis. During that time, however, I have seen many cases coincident with cutaneous tuberculous lesions that were under my care. The French were the first to insist on the relationship between lupus and consumption, a view that I early accepted and insisted on (*An Elementary Treatise on Diseases of the Skin*, 1876). A year later I wrote (*Medical Record*, July 21, 1877) concerning lupus as follows: "Another peculiarity is its gradual extension and involvement of new regions by an apparently infective process, similar to but less in degree than that manifested by cancer." Just two weeks later Mr. Jonathan Hutchinson wrote in the *Medical Times and Gazette*, of London, August 4, 1877, as follows: "The mode in which lupus extends itself, and more especially the manner in which multiple patches are developed, is well worthy of investigation. My impression is that the processes are by cell infection and very similar to what we observe in cancer." This, it must be remembered, was some years before the announcement by Koch of the discovery of the tubercle bacillus and of course before its subsequent identification by Friedländer as the infective agent on lupus.

In cases of pulmonary diseases coexisting with lupus, it has been my custom, except when the case was under the care of another physician, to recommend such measures as were at the

Concerning diabetes Williams says: "Personally, only a few cases have been under my care, but the results have been most satisfactory in each one; the sugar and accompanying symptoms disappeared in an average of six weeks' treatment."

D'Arsonval and Charrin, Apostoli and Berlioz, Réale and de Renzi, Vinaj and Vietti, and many others, report decided benefit resulting from the application of these currents in diabetes.

Nearly every reporter who has made use of high frequency currents in chronic rheumatism or gout credits them with very satisfactory results. My own experience has been confined chiefly to cases associated with chronic affections of the skin, especially eczema, psoriasis, and general pruritus. I do not refer to the classic acute big toe gout, but to the conditions that lead up to it. Almost without exception, the general condition of the patient has improved, as evidenced by his appearance and feelings; and I am not disposed to attribute the results altogether to such local measures as were adopted. In cases of so called arthritis deformans of the hands, pain was in great measure relieved, the fingers became more supple and the interarticular deposits were lessened, as shown by radiographs. The treatment was by autocondensation together with the local application of sparks from a grounded current. The details of the arrangement have been elsewhere described.¹⁷

Williams writes concerning dilatation of the stomach as follows: "Very little has been published on the uses of high frequency currents on this condition, but the few cases one has been able to treat personally have convinced me that we may expect to get great amelioration in the majority of cases." From a report on seventeen cases by Dr. Crombie and Dr. Bokenham (contained in Williams's book) I quote the following: "After a number of applications, varying in different cases from ten to twenty, the stomach was found to have assumed its normal position and size, and the other parts of the intestinal tract to have returned to their natural relative positions. At the same time, in all but two of our patients the normal process of digestion was restored, but it was considered advisable to continue the dietary regimen for some time longer. There was a short relapse of indigestion in one case and of redilatation in another after dietetic indiscretions. In one case, there was no improvement in digestion, owing apparently to a radical fault in the gastric juice (hypochlorhydria), although the stomach remained of normal size." The details of the technics are not definitely given, but it would appear to be chiefly by means of the effluve to the abdomen. The authors further state: "In stout people there was, as a rule, distinct loss of weight during the continuance of the treatment, but the thin and emaciated gained weight steadily." My personal experience is confined to two cases of severe dyspepsia of several years' standing. They were both in young women. In one, dilatation was clearly made out, while in the other it was not so evident. Treatment was by autocondensation and effluve, and was continued for six and seven weeks. In one case there has been no re-

time in vogue. During the past five or six years I have employed both the Morton wave and the d'Arsonval currents with manifest advantage, evidenced by gain in appetite and weight, diminution or stoppage of night sweats and great lessening of nocturnal cough.

¹⁷ *Archives of the Röntgen Ray*, October, 1904.

turn of the trouble for about three months, and in the other for two years.

I find no reference to the treatment of locomotor ataxia by high frequency currents and my personal experience is limited to two cases.

The first was a man, fifty-three years old, who came to me in a cab, although he lived but two blocks away. With difficulty he entered my office assisted by two canes. He had been obliged to give up business, both on account of this ataxia, and mental failure. At the end of two months his pains were markedly ameliorated, he walked to and from his house with one cane, he was able to close up his business affairs and went to Europe. I advised him to go to Switzerland and consult Frenkel. Besides the electricity, he took thirty grains of sodium bromide daily. The second case was in a man about forty years of age. The ataxic gait was hardly noticeable, except to himself, tendon reflex absent, no Argyl Robinson, hypotonia of the muscles of the lower limbs, and pains occasional and not very severe. He came about three times a week for two months, at the end of which time the ataxic gait had greatly improved, the pains had for some time been absent, the general health greatly improved, and he was able to give better attention to his business. The treatment was by autocondensation. For two weeks he took bromide, but was obliged to discontinue it on account of the severe catarrhal symptoms that it invoked.

In the foregoing I have indicated the principal, though by no means the complete rôle that the high frequency currents play in the treatment of depravities that involve more or less constitutional derangement; and now turn to the consideration of local lesions to which the currents are directly applied.

A unipolar application directly from one terminal of a d'Arsonval current is rarely if ever used; the application being made through medium of a resonator (Oudin) connected to the d'Arsonval small solenoid; or through a transformer (Piffard) connected to the outer armatures of the Leyden jars. The current is conveyed to the affected part by means of a proper cord and a metallic, or a glass vacuum electrode.¹⁸ When the electrode is brought to within a few inches of the part a fine spray or effluve is given off, which will be stronger if one of the jars has been grounded. When brought still nearer a white spark jumps between the electrode and the patient. This spark may, according to the energy employed, be exceedingly painful; finally the electrode, preferably glass, may be applied directly to the skin, and gives but little pain if moved about. If retained in contact for a few minutes the parts become hot and painful.

The intensity of the current is under absolute control, and the effect may vary from a slight temporary congestion to absolute necrosis, and this may be produced over a localized area in a few seconds.

An experience of more than six years and covering several thousand applications enables me to speak with some confidence as to the results that may be obtained.

Among the milder affections, obstinate acnes and localized eczemas have often yielded to a few applications, localized pruritus especially of the genital regions have ceased to trouble sometimes after a single application; Lichen planus, which sometimes resists ordinary treatment for six months or more, has disappeared in two or three weeks.

Hæmorrhoids and fissures have cheated the rectal surgeon. Of the affections here mentioned I speak from personal experience, but the same can be corroborated by hundreds of physicians, who have pursued the same measures. It must not be understood that high frequency currents are to be employed in every case included in the above list, but it is certainly the preferable method in a very large proportion of them.

Malignant or semimalignant lesions of the skin—epithelioma, lupus, lupus erythematosus, and sarcomata, when of small size and conveniently located, have been destroyed in very many instances by the caustic spark from a metallic electrode connected to one terminal of a coil transformer, the other terminal being grounded or connected to the person of the patient. This little operation is exceedingly painful for the moment, but as it lasts for but two or three seconds at the utmost it is usually born without flinching. There are many reports in confirmation of this, chiefly from France, where it was first used. I know of no better means of aborting a commencing furuncle, as it does in a moment that which nature requires several days or a week to accomplish. In other words, the cocci are instantly destroyed, together with the follicular wall, and the leucocytes have simply a small inert necrotic plug to deal with, which they usually do with but little accompanying inflammatory action.

In this imperfect sketch of the high frequency currents, I have endeavored simply to notice the more salient features, leaving the technical details of special applications to be learned elsewhere by those who desire to employ them.

While these currents may be extremely serviceable, that is, the preferable method of treatment, in some cases encountered in nearly every specialty, their chief field of usefulness will be at the hands of the general practitioner.

256 WEST FIFTY-SEVENTH STREET.

ON THE SURGICAL TREATMENT OF CHRONIC INDIGESTION.*

By JOHN B. DEAVER, M. D.,

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One of the diseases most widely distributed among civilized communities, one which is indeed so widespread that it has almost ceased to be considered an abnormality in the lay mind, and which is yet most insidious in its course, and is the predisposing cause of many more dangerous maladies, is that time honored affection known as indigestion or dyspepsia. Occasionally, we hear of persons who boast that they have no such thing as a digestion; that they eat what they please, when they please, and as much as they please; and that in spite of notorious indiscretions in diet they are yet never conscious of such a thing as their digestion. In my own experience, such self styled fortunate individuals are free from the symptoms of indigestion merely because they are afflicted with other symptoms which are due, not to the irritating effects of the ingested food on the gastrointestinal tract, but are produced by the absorption in undue quantity

¹⁸ The exact method of connecting these devices is given in the textbooks and hence may be here omitted.

* Read before the American Therapeutical Society, in New York City, May, 1906.

of this same food, when the weaker stomachs of their more fortunate or less favored acquaintances render them incapable of digesting. Thus it comes to pass, as pointed out recently by Francis Hare in his very suggestive work on *The Food Factor in Disease*, that individuals with strong digestions, so called, are they who are prone to gouty attacks, and to other similar disturbances of metabolism, and who habitually overeat themselves because their digestion is good; whereas those in whom the gastrointestinal tract is weak and irritable are peculiarly free from such complaints. Hare (i, p. 44) quotes from Fothergill: "I have been a dyspeptic for fifty years," said an old clergyman, "Thank God for it!" All his brothers had died of gout.

It is in this way that indigestion may be interpreted as a protest on the organism's part against repeated insults from indiscretions in diet; and it is in this stage of the diseases attendant upon indigestion that they may be most surely and most safely cured. *Principiis obsta* is a most excellent motto in medicine, and to withstand the beginning of disease in the alimentary canal is worth more science than to cure fully developed diseases.

For many generations indigestion has been considered a purely medical disease; but now that modern surgery and clinical pathology have begun to point the way, physicians as well as surgeons are not slow to appreciate the fact that organic changes in the internal region of the body require for their correction mechanical means quite as much as do distortions or deformities of the limbs or other external regions of the body. The disorders of metabolism—those produced by abnormal absorption and elimination of the food stuffs—furnish an ample field at present for the physician; and vices of conformation and organic lesions in general, produced by inflammation or morbid changes of another kind, and which alone are the efficient causes of chronic and rebellious indigestion, should be considered the natural and legitimate property of the surgeon.

When surgery had finally conquered the right iliac quadrant as its lawful territory, and had shown the vacillating and uncertain physician how safely, how quickly, and how pleasantly, all acute inflammations of the appendix could be allayed by its aseptic scalpel; it was but natural that then the surgeon should look about him for more worlds to conquer, and should finally wrest from the weakening grasp of medicine another great surgical field of triumph in the area of the gallbladder. And then, as the surgeon became more familiar with pathological conditions found in the upper abdomen during life, and learned how frequently biliary adhesions involved the pylorus, and discovered that in numerous cases the relief of these adhesions and removal of the gallstones alleviated symptoms of gastric indigestion—it is but natural, I repeat, that the surgeon should have sought to extend his beneficent influence over the stomach as well as over the appendix and the gallbladder; and, as a consequence of the improved conditions wrought in the upper abdomen under the surgeon's sway, that

the pancreas hastened of its own accord, as it were, to desert the physician's ranks, and that it preferred to be ruled in diseases by surgery.

It is only a few years ago that the mere idea of indigestion which proved rebellious to medical means, being treated surgically, would have been scouted as preposterous; but most progressive physicians are to-day in perfect accord with the principles of modern surgery, and are only too glad to have the surgeon restore to health those chronic dyspeptics who were formerly a thorn in their flesh, and who almost without exception drifted from one hospital to another, and slowly, but none the less surely, declined in health under prolonged courses of medicinal and dietetic treatment.

Chronic appendicitis is a disease which still exists, and which must be recognized as such if we would have our patients relieved of their discomfort. Apart from the danger, which always exists, and which is no mere *ignis fatuus* of the surgeon's brain, of a case of chronic appendicitis suddenly assuming an acute inflammatory character; there is also to be considered the condition of partial or even of absolute invalidism which is frequently attendant upon this disease, and which cannot be relieved by medical means. Much as I have seen of chronic appendicitis, and numerous as are the patients within my knowledge who have existed for many years with a chronically inflamed appendix in their belly, I yet never hesitate to recommend its prompt removal, when once the diagnosis is clear to my mind. But I must confess to a horror of that kind of surgery which says, in the case of a patient with persistent intestinal indigestion of obscure origin: "It may be the appendix that is at fault; at any rate, let's cut it out, and see if that won't relieve the trouble; it's a trifling operation and can do no harm even if the appendix is normal." Such an argument, gentlemen, should receive no countenance from an honest and conscientious surgeon; it is a habit of mind which is too prevalent in surgery to-day, and which is bringing great discredit upon the surgical profession both at home and abroad. To my mind, a surgeon should not be satisfied to make a diagnosis of chronic appendicitis unless he can do at least one of two things—either elicit a clear history of a preceding acute attack, or else palpate the diseased appendix. In many instances he will be able to accomplish both of these things; but where he can do neither, it is my candid opinion that he will do well to decline to operate. There are many cases of chronic appendicitis which were never, at any stage of the disease acute; and in these it will be manifestly impossible to elicit a history of preceding attacks; all that can be learned from the history will be that the patient has suffered more or less constantly from indigestion, with pains, rather vague perhaps, in the right iliac region, or possibly not localized at all. In such cases, unless the surgeon can satisfy himself by physical examination that the appendix is really diseased, he will do well, as I have already said, to decline operative interference. It will in such cases frequently be possible to detect a spot of persistent tenderness,

or of rather constant rigidity, in the right iliac fossa; or even to detect by deep palpation or by rectal or vaginal examination the presence of a palpably enlarged appendix, when neither tenderness nor rigidity can be elicited. But if neither the physical examination nor the clinical history satisfies him that the vermiform appendix is at fault he had better leave it alone.

I am not one of those who think that this appendage to the intestinal tract has no function whatever; or that it is a mere vestigial structure. On the contrary, my individual experience, as well as all that I can learn from the literature of the subject, convinces me that Professor Berry is correct in regarding the appendix as an intestinal gland, as a highly specialized part of the cæcum; and I am entirely in accord with Sir William Macewen when he expresses the opinion that the succus entericus elaborated by the highly developed glands of Lieberkühn in the cæcum and the appendix is a most powerful adjuvant to the completion of digestion, and that as a consequence "the secretion of the appendix viewed alone in this sense would be a valuable aid to digestion." Conversely the argument is made equally as strong for the removal of an organ such as the appendix when it is really diseased. I recall at the present moment two typical instances of chronic appendicitis. The first patient gave a clear history of previous attack, but although the appendix had been quiescent for a long time, indigestion and vague discomfort in the lower abdomen persisted. Although nothing could be determined by palpation, owing to the patient's thick abdominal walls, I decided to operate, and removed with the happiest results a large and much thickened appendix from behind the cæcum. Another patient who had had an acute attack of appendicitis had been confined to her bed off and on for a year, with persistent flatulence, involving the whole abdomen, and so extensive as to render her an invalid. Physical examination detected a well defined area of tenderness and rigidity over the appendix, and were it not for the distention and rigidity I had little doubt that the diseased appendix itself would be palpable as well. This patient was promised health under so called intestinal antiseptics.

It seems almost unnecessary to urge before this intelligent audience the importance of prompt operative removal of biliary calculi. The more experience any one, whether physician or surgeon, has with these cases, the more important does prompt operation become in his opinion. Gallstones are a positive menace to the patient's life so long as they remain. It is not sufficient to allow one's patients to poke along in a semi-invalided life until an attack of acute cholecystitis arises and renders immediate operation imperative. Here, too, an ounce of prevention is worth pounds of cure, and it is our duty, though it may not always be a pleasant one, to resist the beginnings of disease. Sudden plugging of the common duct may produce a condition of cholæmia in so short a time and in so fatal a form that no operation, however promptly instituted, will rescue the patient from that toxæmic state which is the precursor of death.

Many an obscure case of indigestion can be traced to the presence of gallstones or to a perigastritis originally caused by infection of the biliary tract. Flatulence after eating, rare and apparently causeless vomiting, periods of anorexia or even of actual nausea; these symptoms, even without the history of colicky pains or jaundice, strongly suggest to the alert minded surgeon the existence of cholelithiasis. The actual engagement of a stone in the mouth of the cystic duct may frequently cause slight nausea when it is not sufficient to cause biliary colic; and the minds of medical men should be disabused of the idea that without jaundice there can be no disease of the biliary apparatus. The evil effects of long continued biliary obstruction upon the liver may be compared to those of urinary obstruction upon the kidneys; and as these secondary forms of nephritis may be immensely benefited by prolonged drainage of the urinary bladder, as emphasized by Cabot, of Boston, so likewise may prolonged hepatic drainage be productive of much benefit in cases of parenchymatous hepatitis. The same may be said of chronic pancreatitis. These are diseases which are as surely surgical to-day as is chronic appendicitis.

The subject of gastric disease has of late years been a fascinating one for the surgeon, and surgery has revolutionized the treatment and the effects of these maladies. With an immediate mortality from operative treatment of less than five per cent., compared to a mortality of from ten to twenty per cent. under medical treatment; and with ninety-five per cent. of permanent cures from operation to forty per cent. of permanent cures from medical treatment, is it any wonder that the modern surgeon ranks it as a crime for the physician of to-day to refuse these patients the benefits of operation, or that the progressive physician acknowledges the superiorities of surgical measures in the treatment of chronic gastric indigestion? When we call to mind, moreover, that a large majority of patients with gastric cancer give a history of long continued preceding gastric indigestion, can any one resist the conclusion which is to my mind self evident that if gastric lesions were relieved in time by the surgeon, there would be fewer cases of gastric cancer seen by the physician?

There is nothing to my mind so preposterous as the idea which seems still to possess some physicians that pyloric stenosis, gastric cicatrices, and perigastric adhesions can be removed, relieved, or even so slightly improved by medical measures. The stomach we know is not a portion of the intestinal tract from which absorption to any appreciable extent takes place; and for digestion to proceed in its normal manner it is absolutely essential that the ingested food be delivered in suitable time to the small intestine. No drug will force food through a contracted pylorus. By gastric lavage it is always possible to remove the residue which remains in the stomach, but patients who depend upon such means to evacuate their stomachs constantly lose ground; they are continually under nourished, and thirsty; and unless mechanical means are employed to overcome the obstruction their death

is a matter of but a few years or perhaps only months. Surgery offers in gastrojejunostomy a method which is practically a certain and permanent cure. The immediate mortality is small—in my own hands about two and one half per cent.—and practically every patient who recovers is cured, and cured permanently. Of thirty patients of my own, traced after intervals of from one and one half to four years, not one suffered from gastric symptoms. Other surgeons report equally gratifying results. And in the face of such results, I repeat that it is inconceivable that any progressive physician can afford to refuse his patients the benefits of surgical relief; or that he can continue to treat medically patients who are surely drifting from the stages of gastric ulceration into the more serious maladies of gastrectasis or gastric carcinoma.

The persistence in gastric lavage, in the use of electricity and in the administration of drugs, after a diagnosis of pyloric obstruction has been made, or after a rational course of such treatment has failed to effect a cure, is not merely a foolish waste of time, it is a criminal deception of the patient. Any patient who knows what the modern surgeon knows and what the modern physician could know if he cared to about gastric disease, would be the first person to condemn such senseless dilly dallying with drugs, and would be as eager to accept mechanical correction of his deformed stomach as the surgeon is to offer it to him. In the case of mere atonic dilatation of the stomach, as it is called, where there is no obstruction of the pylorus, it has been my experience that the condition is in reality more often due to visceroptosis. And for such a condition as gastropptosis the operation proposed by Dr. Beyea is to my mind unsatisfactory in the extreme. The shortening of the gastrohepatic ligament has never appealed to me as a surgical procedure; it fails to relieve the gastric dilatation which, as far as my own experience goes, is always associated with these cases of simple gastropptosis. Where the proptosed stomach is not dilated, I have found that all the organs were more or less proptosed; and Beyea's operation is manifestly not curative for such a condition as this. Gastrojejunostomy meets the indications for the gastric dilatation much more fully, and the support of a well fitting abdominal binder will bring the patient much more comfort than complicated suspensory operations, which by the multiplication of adhesions impair the motility of the digestive tract, and substitute one form of discomfort for another.

Some persons have an idea that cancer of the stomach is necessarily fatal, and that even operation offers no hope of escape. Far from it, gentlemen, far from it. When taken in good time there is no region of the body which is so fortunately situated for the radical extirpation of a cancerous growth as is the stomach. But the operation must be done in time; indeed, it is preferably done in the precancerous stage of ulceration before the chronic irritation has inaugurated carcinomatous degeneration. At such a stage, when the beginnings of disease in the stomach are properly resisted, such an operation as gastro-

jejunostomy by draining the stomach and by short circuiting the food from the ulcerated area, will give this portion a chance to heal, and will thus prevent the development of cancer. But even after carcinoma has developed, it is easily removed so long as no neighboring organs are involved in the disease. The affected area is supplied by four main arteries, and by ligating these the removal of large portions of the stomach may be done bloodlessly, and with little if any shock to the patient; and the whole of the disease can be thus removed if the patient is operated upon while still in the "suspicious" stage—in that stage of the disease, I mean, in which the existence of cancer is suspected, but cannot perhaps be definitely determined before opening the abdomen. In such cases exploratory laparotomy finds one of its most legitimate fields; for we operate, not merely to determine whether an operation is required, but to remove a malignant tumor if it be removable, and to perform some palliative operation should a radical one prove to be out of the question.

No cancer of the stomach has ever been cured by medical means; and yet there are numbers of patients who have had cancers cut out of their stomachs and have survived the procedure for years—some for eight years or more, living in good health when last reported, or having died at the end of that period of some other malady. The average duration of life in patients with gastric carcinoma treated by medical means is about twelve months; and at the end of that time all patients so treated will be dead. When treated by operations such as pylorotomy, or partial or subtotal gastrectomy, the duration of life varies from twenty-four to twenty-six months, more than twice as long as after medical treatment; and so far from all the patients being dead at the end of this time, nearly one out of every five patients will be alive and in good health. The cases reported by Mikulicz, and by Carle, and Fantino prove, furthermore, that even, though the hope of freedom from recurrence be slight, yet that gastrectomy gives a lower mortality than does gastroenterostomy for carcinoma, and that the patients live from ten to twelve months longer after the radical operation than they do after the palliative operation. Indeed, Moynihan is very urgent for radical operation, claiming that even though the whole of the affected glands cannot be removed, yet that the excision of the foul and sloughing mass from the cavity of the stomach will very materially benefit the patient's health and prolong his life.

In conclusion I desire to say that the problems of the proper treatment of chronic indigestion can only be worked out by the physician and surgeon together. Very many cases of chronic indigestion—gastric, biliary, or appendicular—are really a form of surgical disease; and those which do not yield within a reasonable time to rational medical treatment can almost without exception be promptly and permanently cured by surgery. The fact, above all others, which I have tried to emphasize is that the surgeon is asking to be called earlier into consultation, that he may decide with the aid of his medi-

cal colleague not only which are proper cases for surgical intervention, but also at what period of the disease surgical remedies had best be applied.

The facts which I have given in regard to the relative mortality under medical and under surgical treatment are not, I think, overstated. I believe they represent the unvarnished truth. Both physician and surgeon are working conscientiously for the best welfare of their patients, and if the surgical side of the question has through this paper acquired greater merit in the minds of my medical confrères, its purpose will have been amply fulfilled.

1634 WALNUT STREET.

ARTERIOSCLEROSIS: ITS RELATION TO DISEASE OF THE NERVOUS SYSTEM AND TO DISORDER OF ITS FUNCTION.*

By JOSEPH COLLINS, M. D.,

NEW YORK.

(Continued from page 1173.)

3. *Vertigo*.—Giddiness and dizziness are the most constant symptoms of intracranial arteriosclerosis, although they do not often occur without association with other symptoms, still vertigo may be the conspicuous symptom and the one for which the patient seeks relief.

The vertigo of arteriosclerosis has no particular feature which permits it to be diagnosed in the absence of evident arteriosclerosis. On the other hand, vertigo in an individual who has arteriosclerosis is not always dependent on the diseased bloodvessels. Like all other symptoms of arteriosclerosis, it differs remarkably in intensity in different cases.

In one case it may be a slight sensation of giddiness, of swimming of surrounding objects, of faintness without other subjective sensation, which come on after exertion or after change of position, and in others it may come on with the suddenness of a flash of lightning, and everything seems to whirl around. The patient is conscious of the necessity of making abrupt change of position in order to maintain the equilibrium. There is throbbing in the head, and the patient falls, but does not usually lose consciousness.

CASE.—A lady, fifty-seven years old, whose arteriosclerosis was associated with diabetes of ten years' duration, had attacks like this without the slightest warning, and often without the throbbing in the head. A feature in this case of great interest was that on three occasions after vertiginous and semisyncopal attacks she had remarkable bradycardia, which lasted in one instance a week, in another four days. The pulse which had been about 95 dropped to 44, but the blood pressure continued high, 190-210 (Stanton). Sodium nitrite and strophanthus seemed to abbreviate these attacks. When an attack was disappearing she was likely to have diarrhœa for a few hours. On other occasions she had attacks in which she fell, but was not conscious of vertigo. For instance, she stood reading the level of the mercury in a thermometer when she fell over, as if suddenly inanimate; no dizziness, no loss of consciousness, no feeling of syncope. After such an attack she felt tired and low in her mind.

Occasionally arteriosclerotic vertigo is associated with noises referred to the ears and subjective sensation of twirling so that it is difficult to make the differentiation from Ménière's disease without an examination of the ears. (Rinne test, tuning fork, and watch).

CASE.—Such a case was E. C., a bricklayer, forty-two years old, who had been a hard drinker and smoker, and had three attacks of profound vertigo. First attack when thirty-nine, one week's duration; second attack when forty, two weeks' duration; third attack forty-two, three weeks' duration; objects seem to tumble in every direction; no nausea or vomiting; symptoms mitigated by keeping prone and absolutely quiet. Increased by bending down and movement of every kind. Arteries marked by arteriosclerotic blood pressure, 280 (Stanton).

Finally, vertigo of arteriosclerotic origin may alternate and in some cases lead up to epileptiform attacks. I have a patient subject to arteriosclerotic epilepsy who has warded off many epileptic attacks by inhaling chloroform, which he always keeps in his clothes and beside his bed. A remarkable feature about this case is that if a drink of whiskey is taken when the vertigo develops it likewise seems to avert an attack.

It scarcely needs to be said that in every case of vertigo, no matter the age of the patient or the apparent dependence of the vertigo upon other conditions, the diagnosis should not be made until after the bloodvessels, heart, and kidneys have been examined. Vertigo is the striking symptom when the bloodvessels of the cerebellum, especially the vermis, are chiefly the seat of the disease. Cerebellar vertigo of arteriosclerotic origin has not, I think, been adequately described. Although there is nothing absolutely characteristic about it, it is usually so profound and associated with so much ataxia, and oftentimes a conviction on the part of the patient that he cannot under any circumstances continue to live, that its origin may be suspected.

CASE.—A woman, sixty-three years old, complained of dizziness, subject to paroxysmal exacerbation, of disordered station and gait attributed to this, and of general weakness; practically no other symptoms. She was never wholly free from vertigo, but she was in an extremely bad way during an exacerbation of these symptoms. The suddenness with which the vertigo sometimes overwhelmed her was distressing. The widespread general arteriosclerosis which she had caused no other marked symptoms. After suffering for six years she developed during a paroxysm of vertigo symptoms of cerebellar apoplexy and died. The autopsy revealed, in addition to the clot, a condition of the bloodvessels, especially of the inferior cerebellar arteries, adequate fully to account for the symptoms she had had.

The most probable diagnosis in a case that I now have under observation is that of cerebellar vertigo.

CASE.—A man, forty-one years old, who denies syphilis and has been a moderately hard drinker, began to complain when he was thirty-eight years old of "lightness" of the head and difficulty of maintaining his equilibrium when walking. After a few months he complained also of a "heaviness" in the middle and back of the head, and of failure of memory. He staggers at times much worse than at others, but there is always a subjective sensation of uncertainty he says.

* The Jerome Cochran Lecture to the Medical Association of the State of Alabama, April 18, 1906.

There is no nystagmus, no spasticity of any of the extremities, no exaggeration of the tendon jerks, no disturbance of speech. There is, however, well marked generalized arteriosclerosis. The vertigo is very much diminished by the administration of medicines that lower blood pressure, and it is increased by taking anything that exalts it.

In many instances the vertigo of arteriosclerosis is associated with headache, insomnia, and depression of spirits. In fact, these symptoms constitute a well defined trio in nearly all cases of cerebral arteriosclerosis.

4. *The Brain Tumor Symptom Complex.*—Occasionally cerebral arteriosclerosis causes symptoms that closely resemble the clinical picture of brain tumor without definite location. I have seen seven such cases, three with autopsy. Oftentimes the diagnosis cannot be made unless opportunity is had to observe the patient for a considerable period. The early symptoms are obscure and evanescent. The symptoms are subject to a very remarkable variability. They exist one day or one week, and are then more or less absent for a time. In one instance this variation of the symptoms led the patient to be treated for a long time for malaria.

CASE.—This was so in the case of a physician, fifty years old, who after having made an enviable reputation, found himself more closely occupied with the practice that it entailed than he was in making it, began to complain of headache, depression, physical and mental inertia, disturbed sleep, and disordered digestion. One day he was overcome with lassitude, another day he felt quite well, and all without attributable cause. Later there were symptoms usually considered to be dependent upon increased intracranial pressure; headache, dizziness, nausea and vomiting, disturbance of vision, somnolence, and intellectual apathy developed. Finally, such evidences of cortical destruction and profound functional impairment as partial paralysis, aphasia, anæsthesia, and hemianæsthesia developed, and the autopsy showed in addition to the enormous sclerotic change in all the intracranial bloodvessels, cystic degenerations following rupture of vessels, multiple hæmorrhages, and cortical atrophy corresponding to the symptoms and objective signs that existed for a considerable time prior to his death.

Occasionally the symptoms came on very abruptly.

CASE.—A laborer, forty-two years old, complained of vertigo, alteration of speech, bitemporal headache, gradual weakness of the right arm and leg, loss of memory, and failure of eyesight. He became quiet, apathetic, and mentally very much altered. Three years later he had an attack of cerebral hæmorrhage, and the autopsy showed the most intense arteriosclerosis.

In other instances the symptoms may continue unmitigated for months or years and then there is a cessation of activity, the patient having been reduced meanwhile to a remarkably shattered condition mentally and physically.

CASE.—This was particularly so in a woman, fifty-seven years old, whose early symptoms were those of somnolency, and inability to keep the attention fixed upon a subject for more than a few moments at a time. After these symptoms had lasted for four or five years, during which time she had become physically much less alert, headache, dizziness, nausea, occasionally vomiting, slowness of speech, and disturbance of gait manifested themselves. Indications of pronounced sclerosis

of the skeletal and visceral bloodvessels were not present at that time, but they developed later, and their existence as well as the course of the disease, the absence of optic neuritis, and the general physical and mental condition of the patient made the diagnosis of cerebral arteriosclerosis.

In every case in which symptoms indicative of brain tumor occur in an individual above forty-five years of age, cerebral arteriosclerosis should be suspected in the absence of implication of the optic nerves. One of the most remarkable cases that I have seen (which may serve also as an illustration of focal epilepsy of arteriosclerotic origin) may be briefly summarized as follows:

CASE.—A woman of fifty years did not regain her strength after an attack of gripe. She became forgetful, easily worried, devoid of her former tranquility, and inclined to depression of spirits. About a year later she had a sensation on going down some steps that she was going to fall, and she did fall. The vertigo lasted a few moments, then she became unconscious and the left upper and lower extremities jerked and twitched. During the next six months she had brief attacks of unconsciousness, fainting spells they were called, without convulsive manifestations, and attacks of rather severe dull headache. She was mildly depressed and resigned. Then she began to have spells, consisting of a queer sensation in the left hand, then within a few seconds the fingers began to assume a bunched, closely approximated position, being drawn tightly together and slightly flexed. This tonic spasm lasted from one to three minutes and was followed, unless she held the left hand and fingers forcibly with the right, by a clonic spasm of ten to thirty seconds' duration. At this time the patient's face, eyes, countenance, and general appearance seemed unaltered, save that she had an expression of concern or mild apprehensiveness. She was able to talk, to walk about, and to describe her sensation during an attack. There was no indication of hemiplegia in her gait or in her face. She inclined to hold the left upper extremity in a semiflexed position and she was slightly bent and immobile, her appearance and attitude reminding forcibly of Parkinson's disease. All the joints of her body were slightly flexed, but the feature that impressed the observer more than any other was the absence of elasticity, mobility, grace—call it what one will—in all her movements.

Gradually she lost the capacity to use the left upper extremity without volitional effort. That is, when she made the effort to extend the left hand, pick up objects, button the clothes, etc., she succeeded in doing what she wished to do, but this hand never entered into the performance of the innumerable movements of the hands of the normal person. She had later complained of difficulty in walking; the left leg did not seem to respond properly. There was a perceptible diminution of readiness and accuracy in recognizing objects placed in the left hand which amounted to a moderate degree of asteriognosis. The tendon jerks of the left side, knee, ankle, and elbow were above normal. There was no Babinski phenomenon. The blood pressure in the radials was high, the vessel itself thickened, the temporals moderately tortuous and the aortic sounds of the heart sharp and click like. The urine contained a faint trace of albumin and a few granular casts. A few days before death there was well marked left hemiplegia and the patient became unconscious. The Rolandic cortex of the right hemisphere showed most typical arteriosclerosis. The most pronounced alteration had occurred in the tunica intima, although the middle and external coats were conspicuously altered. The intima was irregularly thickened, having a bunched or slightly

nodular appearance which bunching protruded slightly into the lumen of the vessel, much more into the substance of the vessel wall, encroaching upon the middle coat. Between these slight bunchings the intima had in many places a pleated appearance, the pleating being irregular. Beneath the epithelial layer is what seems to be a condensation of elastic fibres, or a mesh-work, which was likewise very asymmetrical in its distribution. Here and there the elastic fibres were ruptured and broken down so as to form small spaces. The muscular coat was overdeveloped, in some places thin and atrophic, in other places this irregularity corresponding, though not closely, with the bunched state of the intima. The outer coat was the seat of diffuse cellular proliferation and shows distended intraadventitial lymph spaces.

In some of these cases there is a history of alcoholism, but in the majority of them there is not, and usually the evidences of arteriosclerosis are unmistakable. The case reported by Probst (*Archiv für Psychiatric*, xxxiv, p. 570) may be cited as an excellent illustration.

CASE.—A woman, fifty years old, became forgetful, at times disturbed and slow of speech. Malaise, vomiting, and stuporousness developed next. Then sensory aphasia and apraxia, and finally before death, epileptic attacks. Autopsy revealed in addition to the diffuse arteriosclerosis, secondary softening of the temporal convolution of the left side, and a great number of spots of small softening in the optic thalami and in both hemispheres.

5. *Neurasthenic Symptom Complex*.—It is in the guise of neurasthenia or what is labelled neurasthenia, that cerebral arteriosclerosis usually displays itself. In the eight hundred cases of arteriosclerosis upon which this study is based, 107 presented the neurasthenic symptom complex, i. e., they sought advice for the relief of mental, emotional, physical, and visceral symptoms which are commonly supposed to be due to neurasthenia. Impaired bodily vigor, loss of capacity to plan and to execute, mental depression, emotional irritability, loss of poise, apprehensiveness, cephalic paræsthesia, complaint of odd and disagreeable sensations in the head, paræsthesia of the extremities, palpitation of the heart, fluttering sensation within the abdomen, digestive disturbances, constipation, easily induced fatigue, and disturbed sleep are the commonest symptoms that I have noted in this series.

It is interesting to note that during the past decade the diagnosis of neurasthenia has been made with far less frequency in my clinic and in my private practice than it was before that time. This has been the experience, I am told, of many neurologists. In this same period the diagnosis of arteriosclerosis has become much more common and there can be no doubt, I think, that there is more than an accidental relationship between these two occurrences. In other words, I am of the opinion that many of the cases formerly diagnosticated as neurasthenia were in reality manifestations either of hypertonus of the arteries or of arteriosclerotic changes within them. There can be no doubt, whatsoever, I believe, that those two conditions of which we now rarely ever hear, cerebral anæmia and hyperæmia, which at one time were very popular diag-

noses, had a close relationship to arteriosclerosis. At least, my statistics show that, out of 1,200 cases diagnosticated as neurasthenia, 107 showed well marked changes of arteriosclerosis, i. e., there were gross changes that could readily be detected. In a very considerable number, in addition to this, there were circumstances which made one suspicious of arteriosclerosis. These, however, are not included in the figures given above. Of course, I do not maintain that all of these cases were arteriosclerosis primarily, in some of them the arteriosclerosis may have been secondary to the factors that cause neurasthenia or to neurasthenia itself.

6. *Epilepsy*.—Epilepsy of arteriosclerotic origin is one of the best known of the symptomatic phenomena of the disease. It may display itself as a generalized epilepsy, or it may show itself in the form of a focal epilepsy. The case cited on page 1228 may be taken as an illustration of the latter, and the case which I am about to relate is one of the most typical of the former.

CASE.—A man, sixty-four years old, has had epileptic attacks since his fifty-sixth year. They were at first thought to be uræmic, because of the manifest disease of the kidney. The attacks are preceded by characteristic auræ; the convulsive seizure and the postconvulsive phenomena are all very typical. In addition to these he has abortive attacks heralded by apprehensiveness, followed by vertigo, transient aphasia, exaltation of blood pressure, tachycardia, pallor, etc. The convulsive seizures are invariably preceded and accompanied by a rise of blood pressure. The normal for him seems to be about 175 (S.). It often goes to 250. Prompt venesection aborts many attacks. The evidences of arteriosclerosis are readily detected in every viscus susceptible to examination, but in none so conspicuously as in the heart. This is enormously hypertrophied and there is arteriosclerotic aortic incompetency. The patient's mental condition is noteworthy, considering the functional impairment in other parts of his body.

In every case in which epilepsy reveals itself for the first time after thirty-five years of age the possibility of its being dependent upon arteriosclerosis should be always kept in mind.

7. *Acroparæsthesia* of arteriosclerotic origin. In this connection the manifold paræsthesia of arteriosclerosis should be mentioned. The name acroparæsthesia, it is well known, has been applied to a fairly definite symptom complex, consisting of a subjective sensation of numbness, tingling, crawling, "pins-and-needles" sensation in the extremities, particularly in the hands, arms, and feet, associated with diminished dexterity and apparent depreciation of strength. It occurs in attacks which come on oftenest at night or in the early morning. Occasionally cramps in the legs is an associated symptom. The condition has been fully described by Putnam, Dana, and myself (*Medical Record*, 1901). It is not dependent upon arteriosclerosis in any considerable proportion of the cases, but the relation which hypertonus of the arteries has to its occurrence and the latter in turn to autointoxication is one that needs investigation.

Neuritis.—Neuritis dependent upon arteriosclerosis may affect one or several nerves. When one nerve only is affected there is usually a history

of trauma which acts as an exciting cause. Multiple neuritis of arteriosclerotic origin is not common. The diagnosis has been made five times out of 201 cases of multiple neuritis. This, of course, does not include multiple neuritis of alcoholic origin seen in individuals who have sclerotic bloodvessels. In two of these there was also diabetes, in another profound obesity. The clinical features of arteriosclerotic neuritis are noteworthy, inasmuch as they are more predominantly motor than sensory, and inasmuch as they unfold themselves gradually. The patient complains of paræsthesia, of weakness, of disorder in function of the parts involved, and often of palpitation of the heart, and vertigo. Atrophy and loss of the tendon jerks are often late symptoms. The course of the disease is very chronic and the diagnosis is often to be made by exclusion, as well as from the presence of the manifest arteriosclerosis.

Spinal Arteriosclerosis.—Arteriosclerosis of the spinal cord may give rise to many and very different symptoms depending upon the segment of the cord that is involved and upon the components of the cord that are encroached upon in transverse section. This requires no further emphasis, as it is a self evident truth. If the lesion is limited to the lower half of the cord the symptoms will be referred to the lower extremities, if to the upper half they will be referred to the upper extremities, or to both upper and lower. If the encroachment is upon the anterior horns or upon the motor conducting parts of the cord the principal symptoms will be motor, if upon the sensory part of the cord the conspicuous symptoms will be sensory. As a matter of fact, however, arteriosclerosis of the spinal cord, in so far as my experience has been with it, causes a clinical picture in the majority of cases which is of fairly constant occurrence.

In conjunction with Dr. E. G. Zabriskie I have called attention to this clinical picture on several occasions (*Medical Record*, September 3, 1904; the *Postgraduate*, March, 1906). I have seen many cases illustrative of it, and I have had now not less than six autopsies in which the spinal cord has been carefully examined microscopically. The last case which I saw a few days ago will illustrate the type better than any long description.

CASE.—A man, sixty-three years old, a wine dealer, who had been a hard drinker in the early part of his life and who denies specific infection, was well until ten days before he was brought into the hospital. He maintained that he had had no difficulty with his legs whatsoever, nor did he have easily induced leg weariness. For two weeks previous to the onset of his symptoms he had had itching of the legs. The first symptom of his complaint aside from this itching was pain on the outer border of the feet and ankles, and then twenty-four hours from the time that this pain developed, his legs felt weak so that he walked with difficulty. After this he began to have a sensation of stiffness in the lower extremities and of spasmodic flexor contractions of the toes, sometimes of the calves. In addition there was some retention of urine and constipation. Aside from this, there was no complaint whatsoever. When he came into the hospital he was barely able to stand and to walk, his legs being very weak. The most striking feature about him was the in-

tense arteriosclerosis and exalted blood pressure. When he lay on his back, his hands beneath his head, the elbows extended, the tortuous, lengthened, pulsating brachial arteries were as conspicuously degenerated to the sight, as were the radials and temporals to the touch. Nearly all the skeletal arteries could be palpated. The blood pressure registered fully 310 on the Janeway apparatus—that being the highest registration of which the apparatus is capable. The heart sounds were those characteristic of arteriosclerosis. The lower extremities were freely movable; the knee jerks were almost lost; the plantar reflexes were flexor in type. There was very slight diminution of tactile sensibility, but aside from this there was no sensory disturbance.

This is the type of case which, as I have said before, I have seen many times. When they become more advanced they are often diagnosticated as transverse myelitis or chronic myelitis. In one case which I saw two years ago and which has not yet been published, the symptoms came on so abruptly that the diagnosis of Landry's paralysis or acute ascending paralysis was made. As this feature of the subject is to be considered in a special article I only make this causal reference to it here, only to say that it was well described clinically many years ago by von Leyden (*Klinik der Rückenmarkskrankheiten*, ii, Berlin, 1875). He looked upon it as a manifestation of the senile process in the spinal cord, despite the fact that his patients were sixty-four and fifty-eight years, respectively, and despite the fact that arteriosclerosis was pronounced.

In those days arteriosclerosis was considered a manifestation of senility. In the description of his first case it was noted that the weakness was most conspicuously manifest in the gait, which was stiff, slow, dragging, the legs being scarcely raised and dragged along the floor. The stride was short. Von Leyden stated that the weakness rarely reached such a degree that the patient could not walk. Sensibility, as a rule, was intact and the bladder not often involved. Mental symptoms might be present. The disease developed gradually, and was not subject to attacks or to exacerbations. Very rarely were the symptoms ameliorated.

Von Leyden did not distinguish clearly this variety from the cerebral form of arteriosclerosis as examination of his second case will show. It is worthy to remark that in latter years no mention has been made by him in his book published in conjunction with Golscheider on diseases of the spinal cord. It is difficult to understand why spinal cord arteriosclerosis has lost its place, as it were, amongst the spinal cord diseases, for of its occurrence there cannot be the smallest doubt.

Visceral Arteriosclerosis.—Severe pain occurring paroxysmally in different parts of the body is associated with and dependent upon arteriosclerosis. These are: Angina pectoris; paroxysmal pain in the legs associated with lameness and myasthenia (angina cruris of Walton and Paul; claudication intermittente of Charcot; angeiosclerotic intermittende Dysbasia of Erb, etc.); similar attacks of pain in the arms and in the tongue associated with disturbance of mobility (dyskinesia angeiosclerotica brachii of Erb); obscure abdominal pain often constant; subject

to severe exacerbations, to which the term angina abdominis might be given; and finally painful cramps in the extremities usually occurring during sleep. The first named condition is unfortunately too common and too well known even to the laity to call for further reference to it. Not so angina cruris or intermittent claudication and its analogue recently described by Erb, angioclaserotic dyskinesia of the arm. There is very little reference to this disorder in the literature of the English language, which is in contrast to the numerous articles to be found in French and German.

It consists of attacks of pain and loss of power in the thigh or leg, usually the calf, and usually extremely severe, recurring at irregular intervals, sometimes when the individual is standing or walking, sometimes while in bed. The pulse of the pedal artery is nearly always lost, and there is often local asphyxia and cyanosis during the attack. Occasionally, pulsation of the posterior tibial and popliteal is lacking. In rare instances the pain is absent, the claudication or cramp and lameness, with or without slight paræsthesia, making up the clinical picture.

The attacks last a variable time, some of them are over in a few seconds, others in a few minutes. The patient may be able to walk during an attack, but it is in a halting fashion, and usually he cannot or does not move. Objectively there is not ordinarily a cramp state of the muscles. The attack is often heralded by a sensation of weight and exhaustion in the leg, and occasionally by paræsthesia. In the cases in which the blood pressure has been taken during the attack it has been found to be increased.

It is the opinion of many of the writers on the subject that this symptom complex is not uncommon. Erb (*Deutsche Zeitschrift für Nervenheilkunde*, xiii, 1898, Goldflam (*Neurologisches Zentralblatt*, March 1, 1901) Walton and Paul, (*Boston Medical and Surgical Journal*, May 5, 1902) amongst others have so expressed themselves. Judging from my own experience, however, it is a very uncommon condition. I have met it only in seven instances in 10,000 cases of nervous disease—organic and functional. In six of these the diagnosis of arteriosclerosis was made. In the seventh, the patient, a man of fifty, had had diabetes for seven years, and although no distinct evidences of arteriosclerosis were to be found, it is not at all unlikely that his vessels were diseased. In this case I did not have opportunity to measure the blood pressure during an attack.

It should be said that recurrent painful cramps of constant seat without alteration of pulse, and without distinct claudication, and changes in the color and feel of the skin, commonly called vasomotor, are not included by me in this caption, although it is quite possible that they should be, as Walton suggests. If they were the statistics would be much larger. Such cramps are often dependent upon disordered function (hypertonus) and disease (arteriosclerosis) of the vessel wall, and the successful treatment of them requires that this be recognized.

A clinical condition quite similar to this "in-

termittent claudication" or angina cruris, has recently been described by Determann (*Deutsche Zeitschrift für Nervenheilkunde*, xxix, p. 152) and by Erb (*ibid.*, p. 465, and xxx, p. 201). The first named described a case in which the manifestations were in the arms, the tongue, and the legs, dyskinesia crurum, brachii, linguæ, while Erb has recorded two cases. Phenomena similar to those in the leg mentioned above occur in the arm, and, to a lesser extent in Determann's case, in the tongue, i. e., the tongue showed disordered mobility only, synchronously with the paroxysm in the arm and the leg. In the case recorded by Determann pain was not a prominent symptom. In Erb's first case the patient was under treatment when thirty-two years old for the symptom complex referable to the right leg, and three years later similar symptoms referable to the right arm. The only case that I have seen that belongs to this category was observed in the City Hospital in 1895.

CASE.—The patient, a mason, forty-nine years old, complained that he was unable to continue his work because of attacks of weakness in his right arm, accompanied or preceded by a sensation that his arm was swollen, and often accompanied by very severe pain. During the attack the arm and fore arm became bluish. These attacks lasted from a few seconds to several minutes, and disappeared most quickly when he kept quiet. Attacks could not always be brought on by using the arm, and they sometimes occurred when he was not using it. Examination showed marked arteriosclerosis without particular involvement of the kidneys, so far as examination of the urine showed. The blood pressure was increased, average 165 on the Janeway apparatus. During an attack the right radial pulse was entirely absent. The brachial artery was prominent and tortuous on the right side, and the pulsation was distinctly to be seen in it at the junction of the upper and middle third. During an attack the pulsation diminished most strikingly and was discernible with the finger.

Many cases of obscure abdominal pain may be referred to sclerosis of the vessels in the splanchnic area, which forms part of a general arteriosclerosis or which is at the time the sole representation of the disease. Buch (*St. Petersburger medizinische Wochenschrift*, xxvii, 1904) analyzed twenty-five such cases, personal and collected from the literature. Usually the pain is paroxysmal, of frequent recurrence and is oftenest referred to the region just above the umbilicus and the epigastrium. The pain is increased by exertion and by anything that elevates blood pressure. I had a patient who complained of nausea during an attack, and another who nearly always had diarrhœa after the attack was over. Meteorismus was also a distressing symptom following an attack. In fact, next to pain ballooning of the abdomen without apparent cause, i. e., without fermentation, is a common symptom. Gastrointestinal disturbances dependent mainly upon insufficient secretion of the stomach, liver, pancreas, and sluggish muscular action may be present. In my experience angina abdominis is more likely to occur in younger subjects than angina pectoris. The existence of the arteriosclerotic lesion must sometimes in these cases be made by exclusion, but in the majority of instances

there is a persistent elevation of blood pressure which at least suggests the diagnosis. In one well marked case in the City Hospital sugar was always present in the urine, and on autopsy profound pancreatic arteriosclerosis was found.

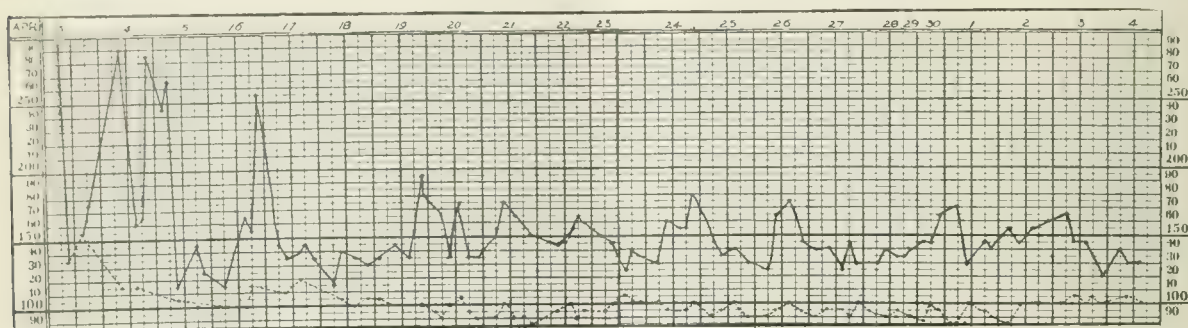
Erythromelalgia and Raynaud's Disease.—The relationship of these two diseases or symptom complexes to arteriosclerosis is merely mentioned here, as I shall soon return to this subject in a separate article, more particularly its relation to the former.

DIAGNOSIS.—We are obliged to admit that the diagnosis of arteriosclerosis, whether it be of the viscera or of the central nervous system, is difficult, often impossible and in not a few instances conjectural. We depend for information concerning the bloodvessels upon estimation of the blood pressure, by sphygmomanometers of one kind or another, upon the tracings of a sphygmograph, upon change in the artery and arterial wall manifest to the senses of sight and touch, and upon the size and sounds of the heart. If we are unwilling to make the diagnosis of arteriosclerosis without corroborative information from

were so much below normal as to call for particular comment. In the next 109 cases the blood pressure was estimated either with the Stanton or with the Janeway apparatus. I consider the normal for these apparatuses to be about 125 to 130.

The cases constituting this series were, as a rule, hospital patients or patients seen in consultation, in which the disease had reached a comparatively advanced stage; the blood pressures are therefore apt to be much higher. As a matter of fact, there are only three cases out of the entire number that showed a subnormal blood pressure. This series in connection with the charts to illustrate various cases in the paper may be taken as a fair index of the condition of the blood pressure in arteriosclerosis. Variation of the blood pressure with its relation to the symptoms is very well shown by the accompanying chart.

CASE.—He came into the hospital on December 4, 1905, and presented the typical picture of alcoholic neuritis, with clouding of the sensorium. His mental symptoms came on apparently soon after a trivial injury,



one or more of these sources, we are likely to overlook more cases than we diagnosticate.¹

In the diagnosis of arteriosclerosis we are confronted with the same difficulty that we are in many other diseases, viz., that it cannot be reduced to the applications of mechanics alone. It offers a field for the display of the art of diagnosis, which art is founded upon experience.

The relation of increased blood pressure to the causation of arteriosclerosis has already been referred to. There is greater unanimity of opinion concerning it as a manifestation of the disease. Most writers believe that it is a fairly constant condition. In order to give an idea of its comparative frequency, I have taken the last 225 cases of arteriosclerosis and tabulated their blood pressures. The blood pressure of the first 116 was measured with the Cook modification of the Rivi-Roci apparatus. The normal blood pressure with this apparatus is considered to be about 145.

Anything under 130 is low and anything above 150 may be considered an increase of blood pressure. Of the 116 cases ninety-four showed an exalted blood pressure; twenty-two were normal or subnormal. Only three cases, however,

In a very valuable paper, entitled *A Preliminary Study of Visceral Arteriosclerosis*, by my colleague, Harlow Brooks (*American Journal of the Medical Sciences*, May, 1906), it is noted that out of 400 cases which he autopsied in only 154 had the condition of arteriosclerosis been diagnosed.

and they resembled the Korsakow's syndrome. Blood pressure March 8th, 160; March 9th, 145; March 10th, 150; March 11th, 150; March 12th, 145; March 13th, 145; March 15th, 145. His blood pressure then jumped to 225; with this he complained of headache, dizziness, sleeplessness, fullness in the head, some pain in the abdomen. Under nitroglycerin ($\frac{1}{25}$ of a grain every two hours) his blood pressure went down to 140. March 17th, 135; March 18th, 160; March 20th, 166.

(To be concluded.)

THE TREATMENT OF ACUTE OTITIS MEDIA PURULENTA AND MASTOIDITIS, BY MEANS OF ARTIFICIALLY INDUCED HYPERÆMIA (BIER'S METHOD).*

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For some years Professor Bier, of Bonn, has been advocating a method of treatment for acute inflammatory and suppurating conditions in the human body, its basis of action somewhat obscure, presumably depending upon heightening the inflammatory reaction rather than subduing

* Read before the Section in Otology, New York Academy of Medicine, April 12, 1906.

it, in an effort to aid Nature to combat the invasion of the body by deleterious agents of disease.

In 1903, Bier (*Die Hyperæmia als Heilmittel*, Leipzig, 1903) published his work on the therapeutics of hyperæmia. In 1905 he reported upon 110 cases of pronounced acute and subacute suppurations wherein pus was demonstrable by exploratory puncture, incision, or discharge from existing wounds or fistulæ, all of which cases were treated by him with varying degrees of success (*Münchener medizinische Wochenschrift*, No. 5-7, 1905). The cases reported consisted of suppurating abscesses, "pus joints," acute and recurrent osteomyelitis, and purulent phlegmons. His conclusions were, that by means of induced hyperæmia, a method was provided in beginning suppurative processes which brought results such as no other therapeutical agent heretofore had demonstrated. His method prominently advanced the possibility of avoiding grave and dangerous operations.

At the German Surgical Congress of 1905 Bier again demonstrated induced hyperæmia. Incidental to this demonstration, he stated that he had treated eighteen cases of otitis media purulenta of which twelve had healed at once, while the other six required operations. The latter cases were found at operation to be complicated with cholesteatome and sequestra formations in the mastoid process, and therefore considered unsuitable cases for the exhibition of his method. His otological cases were later reported upon by Keppler.

Meanwhile, prior to Keppler's publication, Heine tried the Bier method at Lucae's clinic in Berlin, and reported his observations on nineteen cases to the German Otological Society in June, 1905 (*Verhandlungen der deutschen otologischen Gesellschaft*, June, 1905). Strictly following the directions laid down by Bier for inducing hyperæmia of the head, he applied the method to his ear cases. In August, 1905, Keppler's reports were published (*Zeitschrift für Ohrenheilkunde*, 1). At the reading of these reports various observers, among them Voss, Hinsberg, Vohsen, Eschweiler, Kobrak, and others, took part in the discussions. From a perusal of their testimony, while it is apparent that the degrees of success which the various observers obtained, differed, their failure to give in detail the case history in each instance, leaves the material they reported upon in such shape as to be unavailable for scientific study, and I have accordingly disregarded their verbal reports.

It is obvious when a new method of therapeutics is introduced into medicine, and when such a line of treatment is not based upon previously accepted theory, that its empirical application to all sorts of cases is more or less a necessity, until finally enough material has been subjected to trial, and from the judgment of results obtained, the applicability of the suggested line of treatment eventually becomes limited to those cases wherein its empirical application had demonstrated the best practical results.

We are not surprised therefore to find the method employed by Bier (and reported upon by

Keppler) not only in an attempt to cure pure cases of acute otitis media both with and without mastoid involvement, but also find them subjecting chronic otitis media complicated with cholesteatome and sequestra formations in the mastoid, to the influence of the method. Bier's statement of his negative results in cholesteatoma and sequestra cases led Heine to eliminate all such from those selected for subjection to congestive hyperæmia; nevertheless in reviewing Heine's report, we find among his cases otomycosis of the drum and external auditory canal, necrosis of the epitympanic space, otitis media which persisted for a long time prior to being brought under treatment, besides a case where the muscular tissues of the neck were infiltrated with pus, a Bezold's mastoid, subperiosteal abscesses, etc.

Evidently neither Heine nor Keppler had the benefit of each other's observations whereon to base an outline of the indications for the employment of the hyperæmic treatment.

Summarizing both observers' results we find that among the twenty-one cases reported by Keppler—these including Bier's cases—eleven were acute otitis media with positive mastoid involvement. All these healed in from two to four weeks without resort to the indicated operative procedures. Of his chronic cases two healed without operations, one other only healed after the removal of a polyp; and another after an incision had been made over the mastoid process. His other chronic cases did not react to the hyperæmic treatment and were operated upon. Heine reported that he had employed the method in nineteen cases, among which there were four double involvements, i. e., twenty-three diseased ears, with the following results: In cases classified as otitis media acute, both with and without mastoiditis, cures were obtained without operative measures other than the performance of paracentesis, seven times in fifteen cases, the cure being complete in from six to ten days. One of these cured cases recurred after twenty-four days and demanded operative measures. Among his negative results we note an acute case evidencing necrosis of the epitympanic space, a case with purulent infiltrate into the muscular tissues of the neck, and a case of otomycosis. His other negative results were regular cases which failing to react were operated upon. The three subperiosteal cases gave excellent results, after simple incision to afford outlet for the accumulated pus.

Again it must be obvious that other things being equal, if we find certain results from the empirical exhibition of a new therapeutical agent recurring with more than coincidental frequency, always more or less under similar circumstances, than an analysis of these conditions may lead one to the hypothesis upon which the therapeutical agent may be supposed to act. A closer examination of the published case histories of both Heine and Keppler presents the evidence that the results obtained were good and almost invariably so, in all acute cases wherein the Bier bandage had been applied early in the course of the disease.

Therefore, I limited the trial of the method

only to such acute cases which came early under my observation in the course of their ear disease. I eliminated chronic cases, because enough evidence was already at hand, in the first place, of a lack of certainty in results among such, and in the second place, because chronic cases being ambulatory would hardly submit to hospital confinement and bed rest for weeks at a time, when assurances of cure without operation could not reasonably be held out.

Since beginning work along these lines and while this paper was in preparation, two other publications appeared on the results of the Bier method in ear cases in general. Stenger (*Die Bier'sche Stauung bei akuten Ohrenerkrankungen, Deutsche medizinische Wochenschrift*, February 8, 1906, No. 6) not only used congestive hyperæmia according to Bier, but also employed suction stasis. His cases consisted of eleven acute suppurating ears without accompanying mastoiditis, and seven cases with pronounced mastoiditis. Upon a series of chronic cases he is as yet not ready to report. Irrespective of the cause in the given cases, his results were complete cure in six cases, whose duration previous to treatment had been three to four days; the ear function re-established in about eight days after stoppage of the ear discharge which was usually obtained in from nine to eleven days. Among those cases which had lasted longer before treatment was undertaken, he obtained two cures in four cases. He employed suction stasis with favorable results in the other cases reported upon. To this observation add that of F. Colley (*Betrachtungen und Beobachtungen über die Behandlung akuter eitriger Prozesse mit Bier'scher Stauungshyperæmia, Münchener medizinische Wochenschrift*, February 6, 1906), who reports the favorable outcome of one acute case treated according to Bier's method.

My conclusions arrived at from the study of Bier's, Heine's, and Keppler's cases is thus substantiated by the published histories of both Stenger and Colley, and we have additional evidence of the efficacy of the Bier method when early applied whether the given case is complicated or uncomplicated with mastoiditis.

Before proceeding to enumerate further indications and contraindications, and the theory aduced from the results obtained, we will briefly state the technics for the application of the method because both the indications and the contraindications are only understandable when the technics is clear.

The patients are put to bed, after the performance of a paracentesis, and receive about their neck the application of a rubber slightly elastic bandage, one to one half inches in width (children one half inch), and suitably long to fit snugly around the neck. This is fastened at the ends by hook and eye. The pressure maintained must be sufficient to cause only a slight cyanosis of the face, but not so tight that pain is felt in the congested region which should be warm to the touch. The regulation of this pressure is soon learnt by experience. During the course of treatment, the rubber stretches and therefore the bandage

must be frequently inspected, and if necessary tightened.

The bandage is placed in position in the morning and remains in place twenty-two hours; after a pause of two hours it is again replaced. These are the directions laid down by Bier and Heine. Upon the suggestion of Dr. F. Robbins, I aided the induction of hypæmia of the head by raising the foot of the bed so that the patient's head shall be lower than his feet. I find that this aids considerably, and the bandage need not be applied as tightly as when this procedure is omitted. Where pus is evidenced superficially over the mastoid region, Bier's method demands incision into the suppurating mass only large enough to afford egress to the purulent contents of the abscess; no packing is introduced into the cavity.

I found that with the exception of the first few hours, the tight bandage was well borne, and its tightness not complained of even by young children. Two of my cases experienced some trouble during the act of swallowing, but this was obviated by the removal of the bandage during the ingestion of food. The relief of pain is noted very early by the patients, and Keppler found this so marked in some of his cases that he reports patients as asking for the replacement of the bandage because of recurrence of pain during the periods of intermission in the treatment. Earlier observers used the Bier constriction bandage exclusively, but I have combined it with the systematic douching of the ears at regular intervals. Discomforts even in the corpulent have not been demonstrable to any who have employed the method.

The bandage so applied, the bed in proper position, a condition of hyperæmia is induced in the head by mechanical interference with the superficial circulation. It must follow therefore that patients who have cardiac lesions or kidney trouble are not eligible candidates for the exhibition of this treatment. An uncompensated heart already laboring under difficulties might be gravely affected if called upon to act against the increased resistance of the bandage with its resultant capillary stasis. To infiltrate the head tissues with the vital organs it contains, with an artificially produced œdema fluid containing products of metabolism in excess because of kidney lesions was thought unwise; Stenger also calls attention to this; hence both these pathological conditions where evidenced by the physical or the urinary examination are held as distinct contraindications to the employment of the hyperæmic treatment.

Arteriosclerosis with its nonelastic hard deposit lined arteries is also considered contraindicated, for the increased congestion of the head conceivably might produce a rupture of an overburdened cerebral artery with disastrous results.

It follows, therefore, that the old and senile are not to be subjected to this treatment without undertaking greater risks than they would take under the usual lines of treatment, and in adults only those in whom a thorough physical examination reveals freedom from cardiac and renal disease should hyperæmic therapeutics be

tried. Among children and robust adults the best results are to be expected.

Stenger considers adenoids a contraindication; his reasons for so doing are not clear and in two of my cases, one with double involvement, adenoids and tonsil hypertrophy were present, yet the cases demonstrated no unusual results from the effects of the bandage. Until more definite reasons are shown I hold that the presence of adenoids does not constitute a contraindication.

Eliminating all cases wherein the given contraindications obtained and limiting the cases subjected to trial to those coming early under observation, I tried this method in the following six cases, and while I realize that the material submitted is small, still the uniform results obtained when the given indications were kept in mind, entitles me to report upon them and draw conclusions, so that others taking up this work will not waste valuable time along lines which already have shown no results, but rather cause them to investigate along the lines herein outlined so that my results will either be contradicted or substantiated.

The material submitted to the hyperæmic treatment consisted of six cases of acute otitis media

cases usually clear up after mastoid involvement, I find that the time required for reestablishment of the ear function is decidedly shorter than when the usual treatment is employed.

The bacterial findings give no key to the results obtained; mixed infections yielded as readily to the treatment as the staphylococci invasions, and it is noteworthy that the case operated in evidenced the invasion of an extracellular diplococcus infection.

The application of the Bier bandage, while simple in itself and easy of employment, carries with it one danger which I must touch upon to complete this paper. In the cases which do well under its employment the clinical picture changes rapidly, favorable progress which ordinarily in the course of an acute otitis media would take some days, under the influence of the hyperæmic treatment, will be reduced to hours. Therefore the strictest and most competent otological supervision is necessary to avoid missing the proper moment for surgical interference should this become imperative. What shall be the guide to determine when to proceed to operation? When the pus discharging from the ear does not change in character from a distinct creamy purulency

TABULATION OF OBSERVATIONS

| Date. | Type of Case | No. | Sex. | AGE. | Duration Before Treatment. | Bacterial Findings. | Duration of Treatment. | Results. | Ear Normal in |
|---------------------|----------------------------|-----|------|--------|----------------------------|---------------------------|------------------------|-----------|---------------|
| | | | | Years. | | | | | |
| October 3, 1905.... | Hospital case | 1 | F. | 9 | 3 days | Mixed infection | 11 days | Cure | 12 days |
| December 30, 1905. | Private case | 2 | M. | 5 | 1 week | Staphylococcus | 7 " | " | 7 " |
| December 30, 1905. | Hospital case ¹ | 3 | F. | 7 | 4 days | Mixed infection | 7 " | " | 7 " |
| January 6, 1906. . | Hospital case | 4 | M. | 30 | 13 days | Extracellular diplococcus | 5 " | " | 6 " |
| February 6, 1906.. | Hospital case ¹ | 5 | F. | 9 | over 2 weeks | Extracellular diplococcus | 1 " | Operation | --- |
| March 6, 1906. | Private case | 6 | M. | 12 | 2 days | Staphylococcus | 5 " | Cure | 7 days |

¹ Cases wherein both ears were involved.

purulenta with mastoid involvement. Among the patients there were two having both ears affected, i. e., the method was tried on eight acutely diseased ears. For the detailed histories of these cases see appendix. The cases submitted were all distinctly operative mastoid cases. Those patients marked as hospital cases, were sent to the wards of the Manhattan Eye, Ear, and Throat Hospital by my chief, Dr. W. C. Phillips, for mastoid operation. The private patients were also of this type, and all would have been operated upon under the usual methods of treatment. Of these patients all were completely cured except one—of which more hereafter—the membrana tympani normal in an average of from five to six days. The duration of all these cases prior to treatment was relatively short. The only case wherein the symptoms did not permit a postponement of the indicated operation longer than twenty-four hours was a double involvement whose duration before coming under my care was a little over two weeks. This case then is also instructive as substantiating my claim that only when used early is the hyperæmic treatment of advantage.

Compared with the results obtained when

to a more watery consistence within forty-eight hours, even if the mastoid tenderness is less—for it will always be found so under the influence of the bandage—then operation is indicated. If the fever curve instead of falling by lysis from the end of the first day of treatment, either drops suddenly only to rise higher, or remains stationary, or rises from the first steadily higher, then, whether or not the patient's subjective sensations are apparently improved, operative interference is imperatively indicated. Should operative measures be delayed there will be found upon the operating table a mastoid whose contents are in an advanced state of disintegration with possibly the vital structures in the mastoid process exposed to its purulent contents, a state of affairs wholly out of keeping with that which one would expect from the clinical picture of the disease (Heine reports one such case). Under no circumstances should the hyperæmic method of treatment be employed by others than trained and experienced observers, capable of recognizing the approach of the danger zone in time to avert its consequences.

When we limit the applicability of a therapeutical procedure to acute suppurating cases

and find that the results seem to be uniform, obviously some underlying principle is called into action to obtain these results.

We know that interaction between invading bacterial organisms and the body tissues takes place whereby a substance is produced in the body tissues inimical to the bacteria (Park, Nature of the Protective Defences of the Body in his book entitled *Pathogenic Bacteria and Protozoa*, 1905). Conceivably this interactivity must take place in the region of the infected parts. Furthermore, through the action of the enzymes, or by reason of the production in the body of this bactericidal substance, it is conceded that body resistance is usually heightened during the first few hours to days after infection. This heightened resistance must also be greatest around the seat of the lesion, and the damming back of the blood stream by the neck bandage when applied early in the course of the disease produces an artificial œdematous condition of the tissues, and brings more antibacterial fluids to act on the organisms present than would take place were no œdema produced.

In this connection it is interesting to note an experiment undertaken by Colley (*l. c.*) By bringing bacteria of known virulence into contact with œdema fluid from a congested limb, the seat of a suppurative process, the author was able to prove that a distinct bactericidal action not present in serum from a normal limb was developed in the body fluids of a region subjected to congestive treatment.

Read the result of Colley's experiment in the light of our knowledge of body immunity and the explanation of the beneficial action of the Bier method of treatment becomes clear. The nature of the invading organism plays small rôle, as shown by my cases. That increased resistance is produced and cures thus effected I have no doubt, because of the results of my observations.

Finally, a case reported by Keppler is of more than passing interest (*Münchener medizinische Wochenschrift*, Nos. 45, 46, 47, 1905). The patient had been operated upon for cholesteatome of the temporal bone, and subsequently developed the clinical picture of leptomeningitis—fever, headache, rigidity of the neck, variation in the size of pupils, and cutaneous hyperæsthesia—no lumbar puncture being performed, the patient was given the Bier bandage. After only twenty-four hours of the application of induced hyperæmia, a remarkable improvement set in, and at the end of a few days all the symptoms had disappeared. Should this observation be further substantiated a vast field will be opened up for investigation.

Because the bandage application more nearly fitted my theory, it was exclusively employed by me; no incisions were made, except into the membrana tympani. The production of hyperæmia by means of various suction cups, and after incisions over the mastoid seems to me to be a contradiction of terms as advanced. In the latter case an active hyperæmia is produced with attendant blood letting, and while not disputing the

results obtained, for we all know the good procurable from the application of leeches and the Wilde incision, yet when the incision is combined with suction cups, the results thus obtained are ascribable to the active blood depletion, and not to induced congestive hyperæmia. Furthermore, the chiselling of a hole down to the mastoid antrum and the application of suction—the performance of an incomplete operation (for such I term the method advocated by certain observers, among these Stenger, in *Deutsche medizinische Wochenschrift*, February 8, 1906), with its attendant necessary anæsthesia—is certainly less satisfactory and less in accordance to surgical principles than the regular mastoid operation whose results we know and from which we have heretofore obtained satisfying results. If the patient's condition demands operation, then half measures are a useless waste of time, and the method advocated a dangerous procedure.

In conclusion, we submit that the Bier bandage applied early in cases of otitis media acuta with or without complicating mastoiditis will be found a measure productive of good results in cases selected among the young, and the otherwise healthy destined, when its scope and limitations are better understood, to find a permanent place in otological therapeutics.

APPENDIX.

CASE I.—Female, nine years of age, coming under observation at the Manhattan Eye, Ear, and Throat Hospital on October 3, 1905, complained of pain in the left ear, and a discharge which had persisted for three days. Examination revealed a perforation in the drum which was red, swollen, and pulsating, showing pus retention in the tympanic cavity. The canal was narrowed and mastoid tenderness was present. The existing perforation was enlarged, and a bacterial examination of the discharge made, showing a mixed infection. The patient was admitted to the wards by Dr. W. C. Phillips, and under my direction the Bier bandage applied twenty-two hours daily. Hot corrosive mercuric chloride douches (1:2000) were administered. The temperature rose on the morning of the second day, but the ear discharge had already begun to look less purulent, the operative measures were postponed, and the bandage treatment continued. The temperature curve fell steadily from the evening of the second day by lysis. The ear was entirely dry on October 14th, and practically normal in appearance on the 15th, when patient was discharged. The mastoid tenderness was less on the second day, and absent on the fourth day.

CASE II.—Male, aged five years, came under observation on December 30, 1905, because of acute mastoid disease demanding operation in the opinion of the family physician. A mastoiditis was found, evidencing distinct tenderness on pressure over both tip and antrum. The drum was swollen, no landmarks visible, and the canal narrowed. Temperature 101.6° F. The child had complained of intermittent pain in the ear for about a week, but of steady pain for three days. Adenoids and hypertrophied tonsils were found.

Upon agreement with the family physician operative measures were postponed and the Bier hyperæmic treatment undertaken after a paracentesis had been made. The bandage was at once applied and was so well borne after the first three hours that its presence was unnoticed by the child. No interference with the act of drinking was manifest. Hot corrosive mercuric chloride douches (1:2000) were given every four hours.

The temperature fell by lysis, and the discharge became watery on January 4, 1906. The ear was dry January 6, 1906.

CASE III.—Female, seven years of age, seen on December 30, 1905, at the Manhattan Eye, Ear, and Throat Hospital. The case presented a double mastoiditis, complicating acute otitis media purulenta, which had existed four days before her appearance at the hospital. Both drums bulging, swollen, and red; canals narrowed, and on the right side a distinct sinking of the posterior superior quadrant. Infiltrate on the mastoid region was not demonstrable. Bacterial findings after paracentesis evidenced a mixed infection. Adenoids and hypertrophied tonsils were present.

The case was sent to the wards by the surgeon (Dr. W. C. Phillips). The temperature at the time of admission being 102.4° F. The Bier constriction bandage was applied and was well borne. Pain ceased to be complained of almost at once. The ears were regularly douched with hot corrosive mercuric chloride solution. The temperature fell by lysis, and the discharge changed from a purulent one to a discharge of watery character on the fourth day of treatment. Mastoid tenderness absent on both sides on the 5th. The child was discharged from the wards of the hospital on the eighth day of treatment, with both ears dry and hearing as well as before attack, as far as it was able to be proved.

CASE IV.—Male, thirty-nine years of age, physically in good health, a waiter by occupation; appeared at the Manhattan Eye, Ear, and Throat Hospital on January 6, 1906, suffering from severe pain in right ear. He attributed his ear trouble to a cold. Examination gave a membrana tympani on the right side red, swollen, and markedly bulging, with a small perforation in the superior posterior quadrant, from which a pulsating, purulent, thick discharge came away. A paracentesis was made to enlarge the perforation, and the patient was instructed to douch the ear three times daily with hot corrosive mercuric chloride solution (1:2000). His condition improved for a time, but on the 18th of January the pain in the ear recurred, the membrana tympani again evidenced bulging, the superior wall of the canal showed itself sinking. The mastoid evidenced pain on pressure over antrum. No oedema was observable over the mastoid region. A second paracentesis was performed and the same treatment given as at first, but the temperature rose to 102.2° F., and the case was sent to the wards for operation by Dr. W. C. Phillips on the 19th of January.

The Bier treatment was administered, the bandage applied twenty-two hours each day. It was well borne except for the inconvenience experienced by the patient during the taking of food, which required its removal during these times. The bacterial findings in the ear discharge were the extracellular diplococcus. The character of the discharge at admission was thick, creamy, and profuse in amount. On the second day of the treatment, the discharge was less in amount and less creamy, but still profuse in amount. On this day the mastoid tenderness to pressure was hardly noticeable, and the temperature curve began dropping. January 22, 1906, found the patient very comfortable, the discharge rather less in amount and mucopurulent. January 23rd: Discharge distinctly watery, and temperature normal. The bandage was continued, however. Full diet permitted. January 26th: Ear dry, with drum normal and light reflex present. The bandage was still continued in position for another day, and the patient returned to the outpatient department where, when seen a few days later, he appeared as well as ever.

CASE V.—Female, nine years of age, came to the Manhattan Eye, Ear, and Throat Hospital on February 6, 1906, suffering with pain in both ears, giving a his-

tory of pain in the ears lasting for about two weeks on the right side. Examination revealed a double acute mastoiditis complicated by acute otitis media purulenta on both sides. The right ear showed a red, swollen, and bulging drum; the canal was somewhat narrowed. The left ear evidenced a perforation drum with purulent discharge. Both mastoids were exquisitely tender to pressure. Paracentesis performed on both sides, to enlarge the perforation on the one side, and to afford egress to the retained pus on the other. Bacterial findings demonstrated an extracellular diplococcus as the invading organism.

Temperature on admission to the wards was 102° F. The Bier bandage was applied and hot ear douches administered. The next day no improvement being noted and the canals evidencing a further narrowing, the discharge from both ears showing no signs of being influenced by the treatment, and the patient's general condition unimproved, it was decided to operate, the temperature rising to the time of operation. Both mastoids were opened in the usual manner. The further history of this case is not of moment regarding the Bier hyperæmic treatment.

CASE VI.—Male, twelve years of age, seen by me at the request of the attending physician on March 6, 1906. The patient had complained of intermittent pain for a few days, which developed into an acute earache for two days prior to my visit. Examination revealed a boy having hypertrophied tonsils and adenoids, with mastoid tenderness very well marked over the right mastoid process. The drum on this side was red, swollen and bulging, and the canal was distinctly narrowed. Temperature 103.2° F. Paracentesis was at once performed.

Bacterial findings evidenced staphylococcus invasion. Hot corrosive mercuric chloride (1:2000) douches were administered, and the Bier bandage applied for twenty-two hours per day. The bandage was well borne, except during the act of swallowing. Immediately after the paracentesis, the ear began to discharge profusely. The morning of the second day found the temperature still higher, and no improvement in the character of the ear discharge, and after consultation with the attending physician, it was decided to operate upon the patient that afternoon, but at an examination made in the afternoon, the temperature curve had begun to drop, the discharge meanwhile taking upon itself a less thick and creamy character. It was deemed safe to postpone the indicated operative measures and watch developments. The following day the mastoid tenderness had entirely disappeared and the discharge was distinctly watery. The temperature normal. On the fourth day of treatment the ear was moist, and on the sixth day normal in appearance. The patient was entirely cured from this time, with ear function reestablished.

616 MADISON AVENUE.

Plague and Fleas.—The Indian Plague Commission are said to have definitely proved that rat fleas are the normal vehicles of infection in animals, and probably in man. This has been arrived at by showing that animals protected by fine wire gauze remain immune in plague infected buildings, while unguarded controls contract the disease in large numbers. Although Ogata as far back as 1897 showed that the titrated fleas of rats were infective, the theory of insect transmission has been generally "pooh-poohed," and much of the credit of bringing the matter again to the fore is undoubtedly due to Captain Glen Liston, I. M. S., whose paper in the *Indian Medical Gazette*, of February, 1905, may certainly be considered the new starting point of the now triumphant theory.—*The Journal of Tropical Medicine*.

CRITICAL ANALYSIS OF 186 OPERATIONS UPON THE LIVER AND GALL PAS- SAGES, AND THE AFTER RESULTS.

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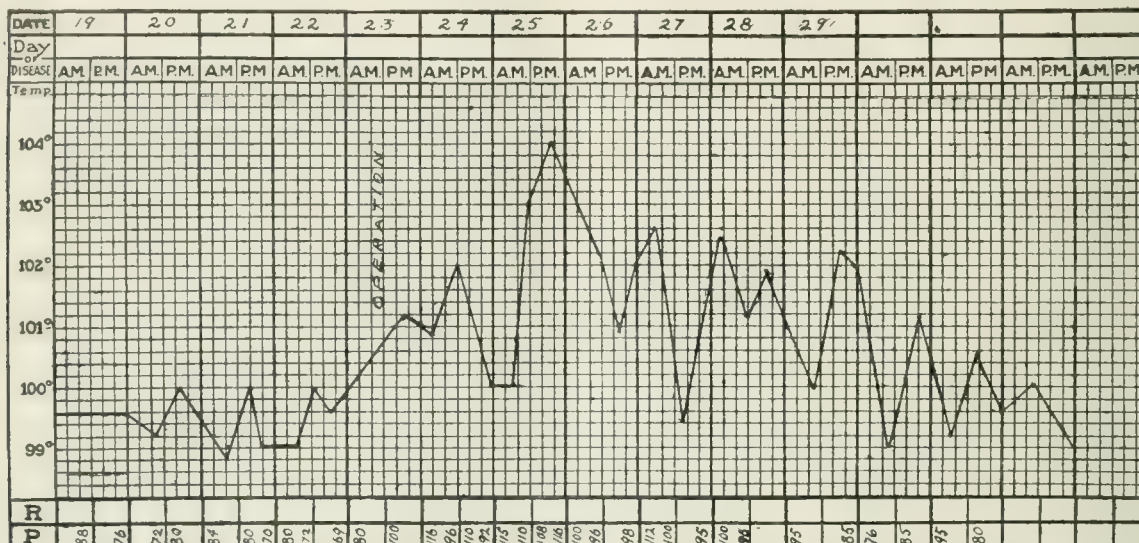
(Concluded from page 1181.)

ECHINOCOCCUS CYSTS OF THE LIVER.

There have been two cases of hydatid cysts of the liver, both of which recovered after operations for the same. It may be mentioned, in passing, that there were at least four other cases upon whom exploratory laparotomies were performed for obscure liver symptoms, with negative results. Autopsies, however, revealed in these patients hydatid cysts deeply hidden on the

down. Liver reached to the umbilicus, and the left lobe was much enlarged. Surface projected. Needle inserted detected no fluid in either chest. Needle inserted into the prominence of the liver obtained gelatinous fluid, in which the microscope detected hooklets. Operation, June 8, 1900. Incision over the liver at the gallbladder region found the liver adherent to the abdominal wall. Needle in liver discovered a cavity, which was opened, evacuating three quarts of fluid. Many daughter cysts removed. The cavity measured eleven inches in depth. Forty-six days after the operation a right pleurisy with effusion was aspirated. Microscopical examination of the fluid was negative. Discharged in sixty days after the operation, cured. Result four and a half years after the operation: The patient has remained perfectly well. Never a sick day. Digestion is perfect. Bowels normal. At times, in rainy weather, has slight sticking sensations in the wound, but these are not at all annoying. The scar is firm, not tender, and there is no sign of a hernia. The liver edge is not felt. Nothing abnormal found anywhere on physical examination.

CASE II.—Mrs. S. M.; aged twenty-five years. Eight years ago a tuberculous gland was opened in the neck.



TRAUMATIC AFFECTIONS OF THE LIVER AND GALL-BLADDER.

There were six patients operated upon in this class, divided as follows:

| | |
|--|----------|
| Ruptured liver..... | 3 cases. |
| Ruptured liver and common duct..... | 1 case. |
| Bullet wound of liver, pleura and diaphragm..... | 1 case. |
| Rupture of the gallbladder..... | 1 case. |

The only one of these patients to survive was the bullet wound case. The histories of the cases are as follows:

CASE I.—C. C.; male; aged sixteen years. Brought in at midnight in the ambulance. A wagon was said to have passed over his abdomen. Operation the next morning. Abdomen found full of blood, and a large rent on the posterior surface of the liver. Tamponade. Died the same night as the operation.

CASE II.—N. F.; male; aged thirty-eight years. Fell eight feet into the hold of a ship, striking the keel block against the upper part of his abdomen. When brought into the hospital he was in great shock, and was vomiting, but with no blood. The next morning tenderness developed in the upper part of the abdomen, with rigidity, and there was dulness in the flanks. Operation twenty-one hours after the original injury. Large amount of blood generally in the abdomen. No source for the hæmorrhage could be found. Abdomen drained. A second attempt was made to find the source of the hæmorrhage on the next day, but without avail. Autopsy showed a rent on the posterior aspect of the liver.

CASE III.—A. J.; female; aged eight years. On September 25, 1903, she was run over by a wagon, the wheel of which passed over her epigastrium. She was collapsed and pulseless on being brought into the hospital. Operation four hours after the injury. Much free blood in the abdomen. Laceration through the entire right lobe, just to the right of the gallbladder. This was partly sewn and partly packed. Death in a few hours after the operation.

CASE IV.—H. B.; male; aged six years. Run over by a wagon, which passed over the epigastrium. Examination showed extensive shock, fractures of the fourth and fifth ribs, rigidity and tenderness in the right upper abdominal quadrant. Operation at once, September 7, 1903. Abdomen contained much fresh blood. The liver was torn in the line of the transverse fissure, and the common bile duct also was torn completely across. Liver, partly sutured, partly sewn. The proximal end of the common bile duct was sutured into the duodenum, the distal end of the duct not being found. This suture did not hold, and all the bile came through the wound; so, sixteen days later, on September 23, 1903, a cholecystenterostomy was performed with the Murphy button. Death the next day.

CASE V.—G. J.; male; aged eleven years. Operation, April 18, 1903, for pistol shot. Perforating wound of the liver, of the pleural cavity, diaphragm, compound fracture of the rib, and retroperitoneal lodgment of the bullet. Exploratory laparotomy. Removal of the bullet, wadding, and clothing. Drainage. Resection of the rib, and drainage of the pleural cavity. Recovery. See *Annals of Surgery*, xxxviii, p. 447, 1903.

CASE VI.—F. B.; male; aged twenty years. Kicked in abdomen by a horse. Considerable shock. Urine normal. Operation, May 7, 1901, eighteen hours after the injury, when the abdomen was moderately distended, rigid, and tender all over, most marked just above the symphysis and to the left, dulness in the flanks. Incision in median line below navel. Greenish fluid immediately escaped. Incision continued up to the gallbladder region, which was ruptured at its fundus. The gallbladder could not be brought up to

the abdominal wall, so the rent in its fundus was closed by sutures. Drainage of the abdomen above and below. Death on the second day after the operation, when he began to vomit, and the pulse went to pieces.

The comment which will be made at once upon these cases is that there was too much delay between the time of the accidents and the carrying out of the operations. To have saved these patients it would have been necessary to operate immediately after the accidents, before the signs of intraabdominal lesions were clear. It is being more and more understood that exploratory operations upon the abdomen for injuries are necessary at once, even before the development of symptoms of serious lesions. In the future, with this clearly in view, we may expect much better operative results in these severe cases.

ABSCESS OF THE LIVER.

Sixteen patients were operated upon for abscesses of the liver.² Of this number, seven, or forty-four per cent., died. Six had multiple abscesses, of whom four died. Ten patients had single abscesses, three of whom died. Only five of the sixteen gave a previous history of diarrhoea, and five gave a distinct history of constipation. Five either had jaundice at the time of operation or else gave a history of antecedent jaundice. The leucocyte count in the cases in which it was taken are as follows: 14,000, 20,000, 17,000, 11,000, 15,000, 19,000, 19,800, 36,000, 18,000, 14,000, 19,000. No patient gave a history of an antecedent trauma. Thirteen of the sixteen patients were men, of whom six were heavy drinkers. Ten of the patients had a distinct mass over the liver at the time of operation. The ages were 12, 13, 25, 27, 30, 32, 32, 35, 35, 36, 38, 40, 43, 43, 48, and 30. In only four cases was there a history of distinct chills and sweating. Ten of the patients presented no ætiological factors. Symptoms existed in these ten patients for

| | | | |
|--------------|----------|---------------|----------|
| 10 days..... | 3 cases. | 1 month..... | 2 cases. |
| 12 days..... | 1 case. | 5 weeks..... | 1 case. |
| 3 weeks..... | 2 cases. | 3 months..... | 1 case. |

These ten patients presented symptoms similar to those which one would expect when an abscess was developing elsewhere in the body, and did not present the classical textbook characteristics of liver abscess. In all of them pain in the liver region, at first dull, then later becoming severer, more of an ache than a sharp pain, was the first symptom. Feverishness, no chills, nor sweating, progressive prostration, gradually made themselves evident. The constitutional appearances in the beginning were strongly suggestive of developing typhoid fever. Jaundice was present in only a third of the cases. The temperature chart in these patients was usually not characteristic (no wide fluctuations), but presented in many cases a curve, more or less continued with slight fluctuations. All presented tenderness over the liver, and the majority a prominence of greater or less size, which was often hard to the feel, corresponding to the depth of the abscess in the liver substance.

The ætiology of the six remaining patients is as follows: In five there was a previous history

² Most of these cases belong to the so called idiopathic variety. There have been excluded here all cases of liver abscesses developing after abdominal operations for other purposes.

of distinct diarrhœa. In one, Case IX following, there were prior operations for acute mastoiditis and sinus thrombosis, and the liver abscess may be looked upon as a metastasis.

The general leucocyte counts were neither conclusive of the presence of pus nor of the prognosis. A low count neither rules out the presence of pus nor does it mean a bad prognosis, as the following table will show, in eleven cases in which it was taken. Each figure represents a separate case.

| | |
|-------------------|--|
| 14,000—Died. | Polymorphonuclears, 91 per cent. |
| 14,000—Recovered. | |
| 11,000—Recovered. | Polymorphonuclears, 80 per cent. |
| 15,000—Recovered. | |
| 16,000—Died. | Purulent pericarditis. |
| 17,000—Recovered. | |
| 18,000—Died. | Multiple liver abscesses. Calculus in gallbladder. |
| 19,000—Recovered. | |
| 20,000—Recovered. | |
| 23,000—Recovered. | Pneumonia as a complication. |
| 36,000—Recovered. | |

A differential blood count was made in two cases. In one patient the leucocytes were 14,000, and the polymorphonuclear leucocytes were ninety-one per cent. This patient died. A second had 11,000 leucocytes, with eighty per cent. of polymorphonuclears, and this patient recovered after operation.

The following complications developed after the operations:

| | |
|---|-----------|
| Empyema | Recovery. |
| Subdiaphragmatic abscess | Died. |
| Pneumonia of right lung | Recovery. |
| Communication between bronchus and abscess cavity | Died. |
| Peritonitis (also pregnant) | Died. |
| Pericarditis purulent | Died. |
| Septic infarctions of lung (autopsy) | Died. |
| Ulcerative colitis (autopsy) | Died. |
| Abscess of left groin | Recovery. |
| Parotitis | Recovery. |

ULTIMATE RESULTS OF THE OPERATIONS.

Seven of the nine patients who recovered from the operations have been followed subsequently for varying periods of time. Two of the seven, or twenty-eight per cent. (Cases II and VI), developed afterward other abscesses in the liver requiring operations, one twenty-six days (recovery) and the other ten months (death) after the primary operation. Two of the nine patients had had obstinate diarrhœa before the operations. Both had a continuation of the diarrhœa, which was not influenced by the operations. One of these (Case I), twenty months after the operation, is perfectly well so far as any symptoms referable to the liver are concerned, but he has periodic attacks of diarrhœa which are very troublesome. The other (Case II) had a recurrence of the diarrhœa one month after leaving the hospital after the first operation, and ten months later he was again operated upon for a second liver abscess, in the Presbyterian Hospital, with a fatal result.

There are five of the seven cases which we may call perfectly cured in every respect (Cases III, IV, V, VI, VII), or seventy-one per cent. Among these has been included one patient, No. VI, who developed a second liver abscess twenty-six days after the first operation, while he was yet in the hospital, and for which he had a successful operation. He has remained perfectly well for four and a half years since the second operation. The sixth patient (Case I) is well, so far as his liver trouble is concerned, but his diarrhœa is periodically very troublesome. We may call him im-

proved. The seventh patient (Case II, as mentioned already) died after a second operation for recurrent liver abscess, ten months after the primary operation.

The duration of the cures is as follows:

| | |
|------------------------------|-----------------------------|
| Three years | 2 cases (Cases III and IV.) |
| Four and a half years | 2 cases (Cases V and VI.) |
| Three years and seven months | 1 case (Case VII.) |

In none of the patients has a hernia followed the operations.

RESUME OF RESULTS OF OPERATIONS FOR LIVER ABSCESS.

| | |
|--|--------------|
| Total number of cases | 16 |
| Antecedent diarrhœa present in 5, or | 31 per cent. |
| Antecedent jaundice present in 5, or | 31 per cent. |
| Died, 7, or | 41 per cent. |
| Of seven cases traced to present time— | |
| Two developed subsequent liver abscesses, or | 28 per cent. |
| Five remained permanently cured, or | 71 per cent. |

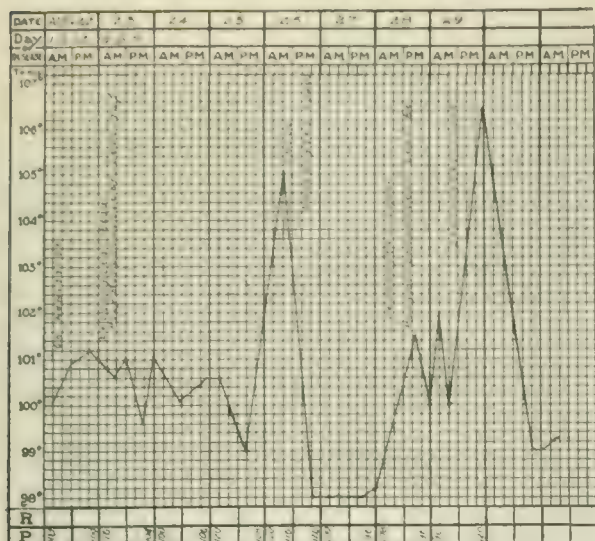
The history of the patients who recovered, with the after results, is as follows:

CASE I.—S. J. S.; male; aged twenty-five years; single. In 1900, when a soldier in the Philippines, had an attack of dysentery, which kept him in bed for six weeks. For one month of this time he was tender over the liver, and was jaundiced. He was well until two months ago, when he had a severe attack of pain in the right side. During this time his chest has been aspirated a number of times and pus evacuated. On his admission in February 5, 1904, the ninth rib was resected, and two pints of anchovy sauce colored fluid were evacuated. Two days after this operation he developed a right parotitis. The temperature reached normal on the twelfth day after the empyema operation, and remained so until the twenty-first day, when it shot up to 104°. Thereafter he ran an irregular temperature, reaching an average of 104° in the afternoon and 99° in the morning. On the thirty-ninth day there was a discharge of pus from the wound, followed by some temporary relief. The leucocyte count was 36,000. On March 21, 1904, the empyema wound was enlarged, and pus was seen to well up from an opening in the diaphragm, through which a probe passed at the costophrenic sinus into the liver. An opening was made below, and two ribs partially resected. The diaphragm was exposed, with the opening through it, and an abscess in the liver opened which contained two pints of thick pus. The wound closed solidly thirty-six days after the last operation. Result twenty months afterward: The patient has never gotten rid of the diarrhœa. It recurs every few weeks, and is very troublesome. The liver region has caused him no discomfort. The liver itself is not enlarged, and is not tender. The lung has expanded to its full capacity, the breath sounds are normal, and there are no adhesion râles to be heard.

The following patient had a recurrence of a liver abscess eleven months after an operation for a primary abscess.

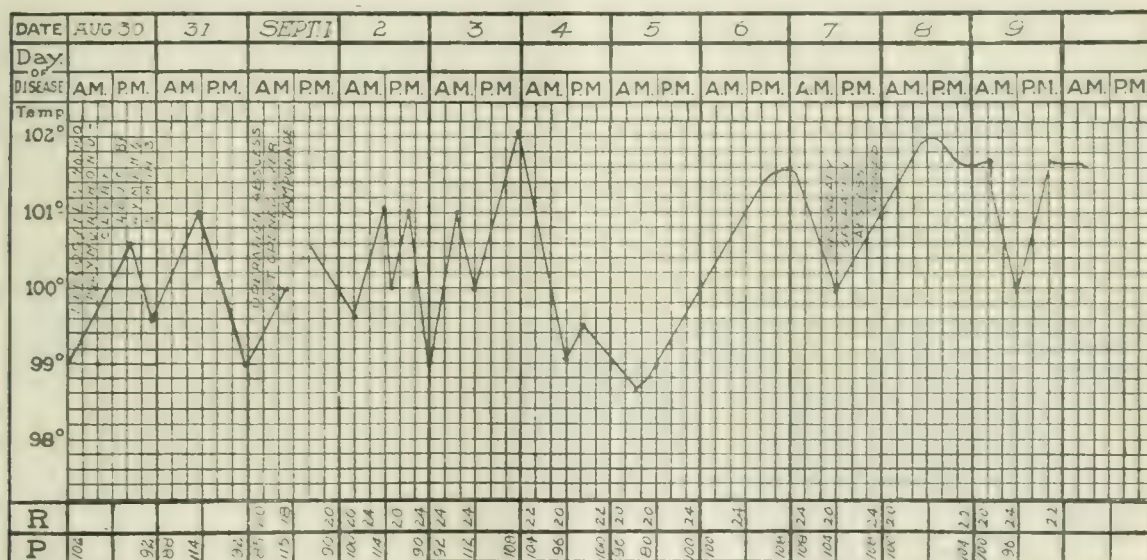
CASE II.—J. B. H.; male; aged forty years; single. Admitted September 12, 1904. Fairly alcoholic. Has never been away from New York. For four years has had loose movements, often containing blood, averaging four or five each day, but worse at some times than at others. Six months ago had an attack of sharp pain in the right side, with cough. This became better in a month, but he felt poorly. Four months ago the pain in the side recurred, with some nausea, and occasional vomiting, and loss of strength. This attack lasted for three weeks, and then passed away, to recur two months ago with greater severity. No cough nor vomiting, but some nausea. Four weeks ago a swelling appeared at the site of pain in the side. It was hard, not particularly tender. No cough nor dyspnoea. On admission, the temperature was 102.5°; pulse, 100. The liver edge was felt two inches below the costal

border, and slightly tender. The spleen was large. At the base of the right axilla, at the costal border, under the tenth, eleventh, twelfth ribs, is a smooth, slightly



tender, fluctuating prominence. The skin was not involved. At the operation an opening was made over the prominence, and on cutting through the muscles there was a gush of large quantities of odorless pus. Rib resected. A large cavity in the right lobe of the liver was found, and through this several smaller pock-

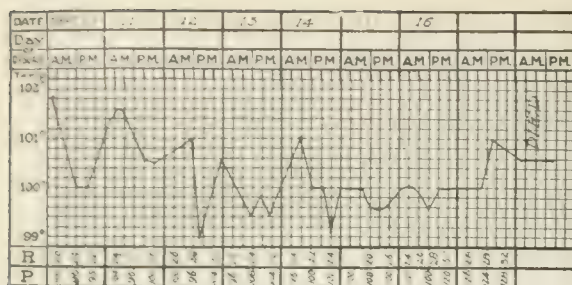
but considerable rectal tenesmus. These symptoms have continued until the present time, on his admission to the hospital. He then had from eight to ten bloody stools each day. The liver edge reached two and one half inches below the costal border, and it was not tender. The spleen was not enlarged. The appended charts show the temperature variations. On admission, the leucocytes were 18,000, and the hæmoglobin sixty-three per cent. No amœbæ were found in the stools. From the fever chart it appears as though the abscess in the liver developed while the patient was in the hospital. There was a progressive increase in the leucocytes as a whole, and also in the polymorphonuclear leucocytes. On the seventh day after admission the liver edge reached five inches below the costal edge, and it was somewhat tender. Obstinate hiccough also was present. The right costal arch became very rigid. On August 30th, the day before operation, the leucocytes were 46,000, and the polymorphonuclears were eighty-nine per cent. The temperature range may be seen from the appended charts. Operation, September 1, 1904. Incision three inches in right hypochondrium, parallel to right costal border. Needle in liver withdrew pus. Tamponade. Six days later, without an anæsthetic, the abscess cavity, about an inch and a half from the surface, was opened with the cautery. It contained a large amount of thin brownish pus, culture of which showed bacillus coli communis, but no amœbæ. The patient failed to improve after the operation, but grew progressively weaker, with a diarrhœa which could not be controlled by any means. There seemed to be some bronchitis, but no other definite signs in the lungs.



ets were drained. The leucocytes at the time of the operation were 14,000. There was considerable diarrhœa after the operation. In forty days thereafter the wound was entirely healed, and his diarrhœa had ceased. There was no growth from the pus taken at the time of the operation, neither were there any amœbæ found either in the pus nor at any time in the fæces. Discharged November 8, 1904.

The after history: The patient was readmitted to the hospital on August 22, 1905, eight months after his previous discharge. He remained well for one month after his discharge from the hospital in the preceding November, when his appetite failed, and he had occasional vomiting, and the diarrhœa reappeared. He passed frequent small quantities of blood, with mucus, and the movements were often involuntary. There was no pain in the liver region, nor abdominal colic,

The autopsy findings are interesting. There were present ulcerative colitis, abscess cavity of liver, septic infarctions of lungs, nephritis, and slight fat necrosis of pancreas. Section of the right lung shows it to be normal in the lower part, while the upper is infiltrated with pus apparently from septic infarcts. The left lung shows, on section, septic infarct in the lower lobe. Broken down, slightly œdematous behind. Liver weighed 98 ounces. Surface adherent to the diaphragm. Large abscess cavity in the upper part of the right lobe, with ragged, sloughing walls, which was drained by an operation wound just at the border of the ribs. There is only a single cavity, but there are scars left by a former abscess which was opened a year ago. Spleen normal. Pancreas shows a few spots of fat necrosis, otherwise normal. Throughout the entire length of the colon the mucous membrane is studded

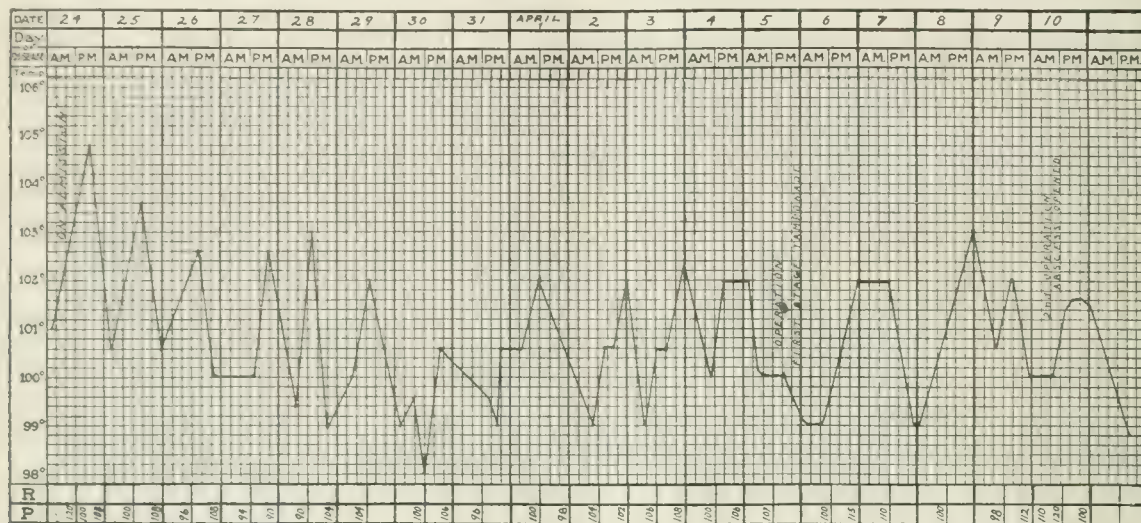


with rather superficial ulcers, with yellow sloughing bases, and occasionally a deeper cicatrizing ulcer. A portion of the descending colon appears to be somewhat

developed actual pain, with some nausea and vomiting. Slight jaundice the last few days. No chills, slight feverishness. Some fullness in the right hypochondrium, where there is a tender mass.

Operation in two stages; the first, a tamponade of the liver simply, after location of the abscess with the needle, on April 5th, followed by the draining of the abscess five days later. The abscess was opened with the Paquelin at a depth of two inches, and the cavity was about four inches in diameter. A culture of the pus proved the presence of staphylococci. The patient left the hospital cured in about fifty days after the operation.

Subsequent history: Three years after the operation she was again operated upon in the Presbyterian Hospital for a dermoid cyst of the ovary. Exploration of

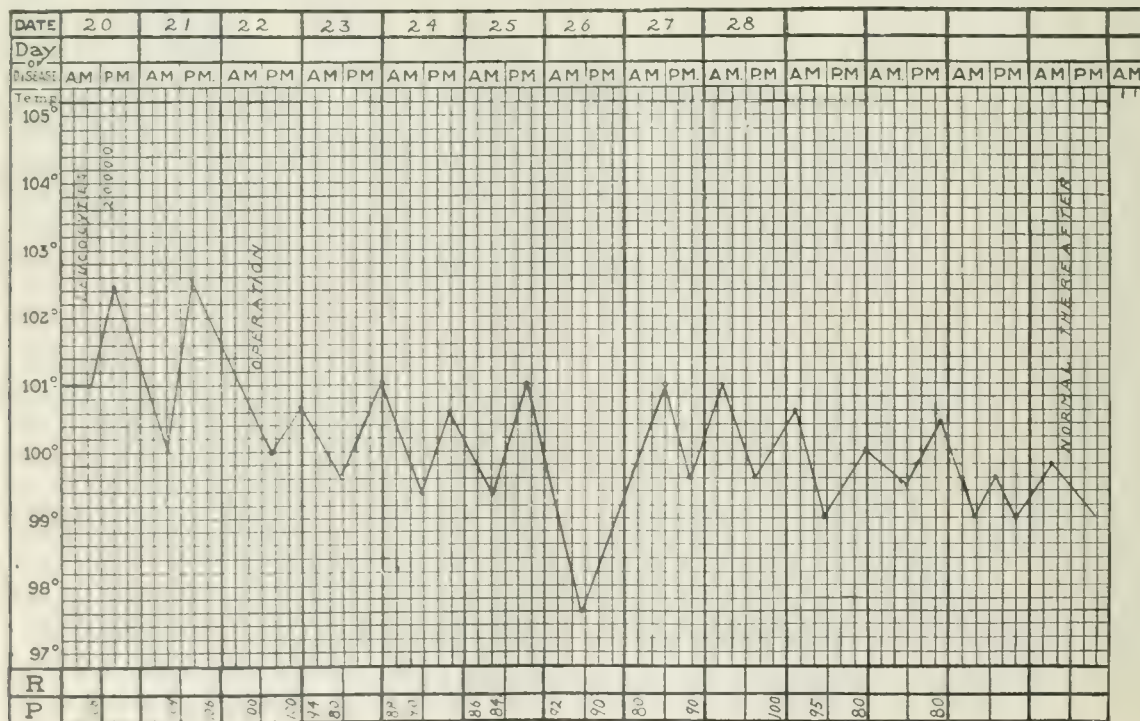


thickened, and contracted by an old cicatricial process.

CASE III.—Mrs. K. H.; aged thirty-two years. Admitted March 24, 1900. Perfectly well until ten days ago, when she noticed soreness and swelling in the right hypochondrium. Never any diarrhoea. She soon

the liver region through the lower wound showed the liver to be free from adhesions. She had never had any symptoms referable to the liver after the first operation. Patient could not be traced further.

CASE IV.—S. J.; male; aged forty-three years; sin-

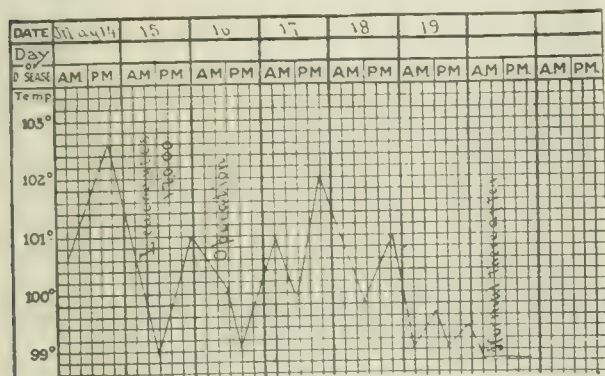


gle. Admitted June 20, 1900. Always constipated. No history of an antecedent diarrhoea. Three months ago taken with dull aching pain in the right hypochondrium, which lasted for a month. No jaundice nor stomach disturbance. Well, then, until one month ago, when the pain recurred. For past week could not work on account of the pain, weakness, chilliness, and fever. Pain is constant, and localized. Has had some vomiting the past week. On admission, the temperature was 102° ; pulse, 110. Edge of the liver was four and a half inches below the costal margin; surface smooth, and there was a small, tender, slight bulging on its surface. Leucocytes, 20,000. Operation, June 22, 1900. Vertical incision, peritonæum adherent to surface of liver. At a depth of one eighth of an inch in the right lobe an abscess was found and a quart of pus evacuated. Culture no growth; no amœbæ found. Uninterrupted convalescence, the patient being in the hospital for thirty days. Result: This patient was seen in March, 1903, i. e., almost three years after the operation. At this time he was perfectly well in every way, and had been so since the operation.

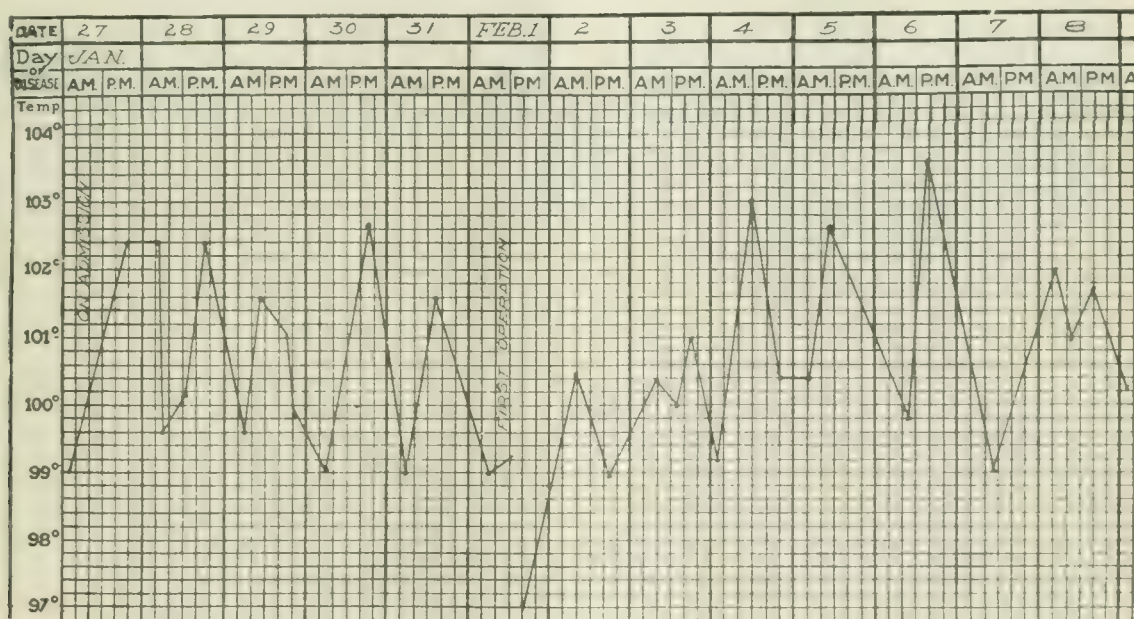
CASE V.—T. C.; male; aged forty-three years. Admitted May 14, 1901. Six months ago was sick for a

toms recurred again: pain, tenderness, and swelling in the right hypochondrium, weakness, fever, constipation, no chills, no jaundice. On examination, there is a swelling in the right upper abdominal quadrant, pushing forward the costal cartilages. Liver edge reaches five inches below the rib margin. Leucocytes, 17,000. On May 16, 1901, a large abscess in the right lobe was opened, containing two or three pints of chocolate colored pus. The sinus closed in twenty-five days. There was no growth from the culture taken at the time of the operation. Result, in November, 1905: Patient is in perfect health. There has never been any recurrence of the abscess, nor has there ever been any pain over the liver. His digestion is good.

CASE VI.—G. F.; male; aged forty-eight years. Admitted January 27, 1901. Discharged April 12, 1901. Patient was operated upon in another institution five weeks ago for supposed biliary calculus, as he was jaundiced, and had indefinite pains in the back and right hypochondrium. Nothing was found in the liver or gallbladder. Since then he has been getting worse. Fever has been higher, with chilly sensations, marked jaundice, and pain. On admission, the temperature was 102° ; the liver was tender and enlarged, the edge being felt two inches below the ribs. The upper right rectus was very rigid, and there seemed to be a bulging over the liver. The right costal arch was also very rigid. Leucocytes, 11,000. Polymorphonuclear leucocytes were eighty per cent. (See temperature chart.) Operation on February 1st; a single large abscess in right lobe, containing a pint of pus, was opened and drained. The temperature became normal on the twelfth day after this operation, and remained so until the seventeenth day, when it began gradually to rise, and a few days thereafter he complained of slight pains under the upper left rectus muscle, where on the twenty-third day it was very tender, and a bulging was evident. Leucocytes, 18,000. February 25th, twenty-six days after the first operation, incision made over the left rectus. Left lobe enlarged, in which two pockets, not communicating with the original cavity, were opened and drained. Cultures taken both at the first and second operations gave no growth. Patient left



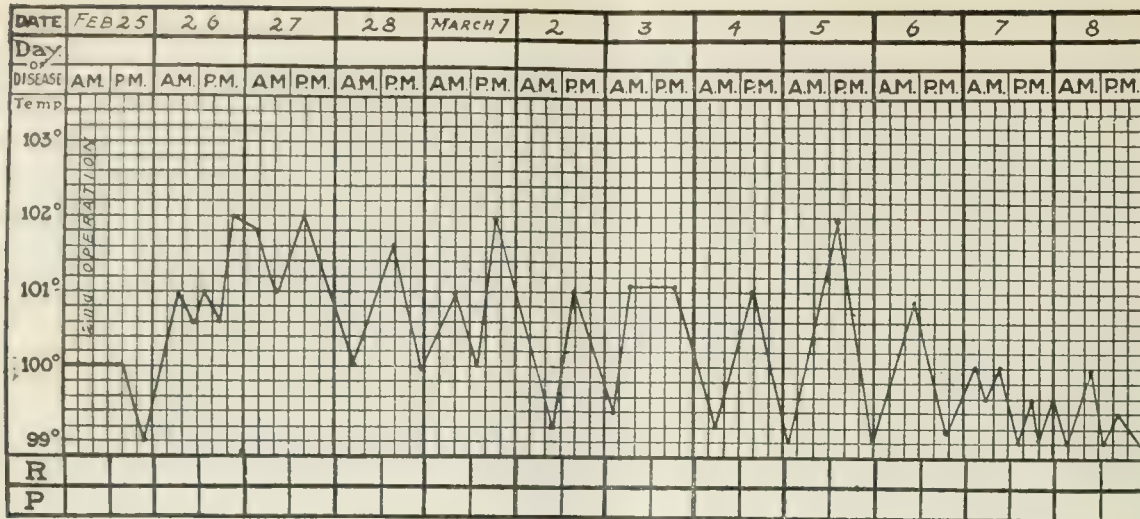
month with fever, pain, and swelling in the right hypochondrium. No jaundice nor diarrhoea ever. Was then well until one month ago, when the same symp-



LABORATORY REPORTS.

January 28th. Leucocytes, 11,000. Red blood cells, 2,756,000.
January 29th. Differential, polymorphonuclear neutrophils, 80.6. Hemoglobin, 40 per cent. Eosinophiles, 1.9. Small lymphocytes, 14.9. Large lymphocytes, 2.6.
February 2d. Leucocytes, 12,000.

February 5th. Leucocytes, 12,000.
February 10th. Leucocytes, 14,000.
February 20th. Leucocytes, 18,000.
February 26th. Leucocytes, 9,000.
March 7th. Leucocytes, 11,000.
February 26th. Urine, very heavy trace albumin; granular and cylindric casts.

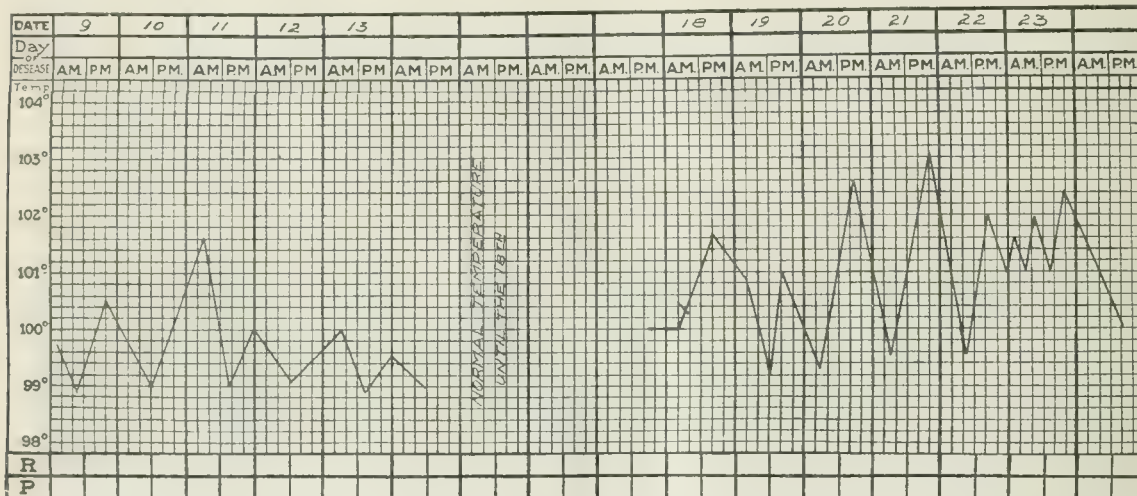


the hospital on the sixty-seventh day after admission, the opening into the first cavity being then three inches deep, and the left opening one inch in depth.

Result four and a half years after the operations: The patient has had no pain in the liver region of any kind, nor any tenderness. The liver is not enlarged. Digestion is perfect. There is no sign of any hernia.

CASE VII.—L. L.; male; aged thirty-five years. Moderately alcoholic. Nine months ago had a mild attack of appendicitis, lasting five days, with no fever, but simply pain over the appendix. Admitted April 14,

he began to feel weak and feverish. Never jaundiced. On admission, June 3, 1902, he complained of the pain, fever, and great prostration. For four days prior to the operation he ran a temperature (see chart) around 103°; pulse, 90. On examination, the liver edge was one inch below the costal arch; the right rectus was very rigid and tender, and there was a tender mass opposite the ninth cartilage. At the operation the liver edge was four inches below the ribs, and four ounces of thick pus were evacuated from an abscess cavity in the right lobe. Before operation the leucocytes were



1902. Well until ten days ago, when he was seized with severe colic in the epigastrium, with chill, fever, and sweating, but no vomiting. Constipated. No jaundice. Pain intermittent. Great tenderness in the right hypochondrium. Very rigid right costal arch. In epigastrium and hypochondrium a mass five inches in width was felt, tender, hard. Operation, April 16th, by an incision in the median line. Pus evacuated at once, seen to come from a cavity in the liver. Leucocytes before the operation, 15,000. Discharged on the twenty-fourth day after operation.

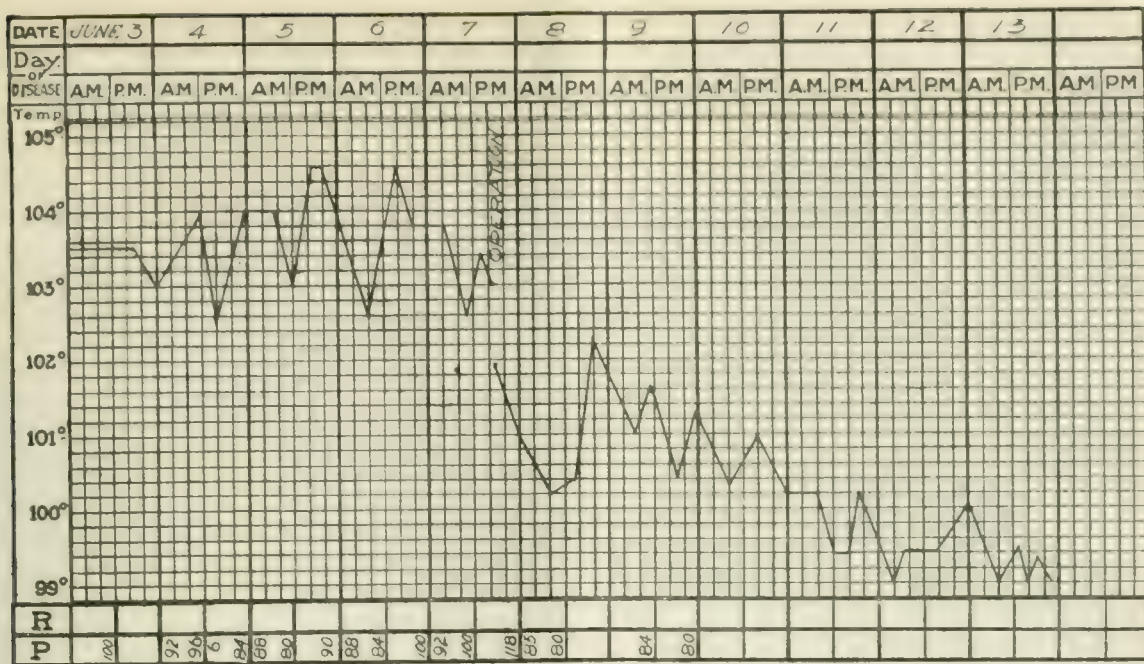
Result: Has been perfectly well ever since the operation. No difficulty of any kind.

CASE VIII.—V. F.; male; aged thirty years. Has been a steady drinker, and has had a chronic gastritis for a long time. Never any diarrhoea, but constipation. Three weeks ago he began to have dull pain in the right upper abdomen. No fever nor chills. One week ago this pain became knifelike and severe, and

19,400. Cultures from the pus gave no growth. Patient was discharged from the hospital in thirty-six days.

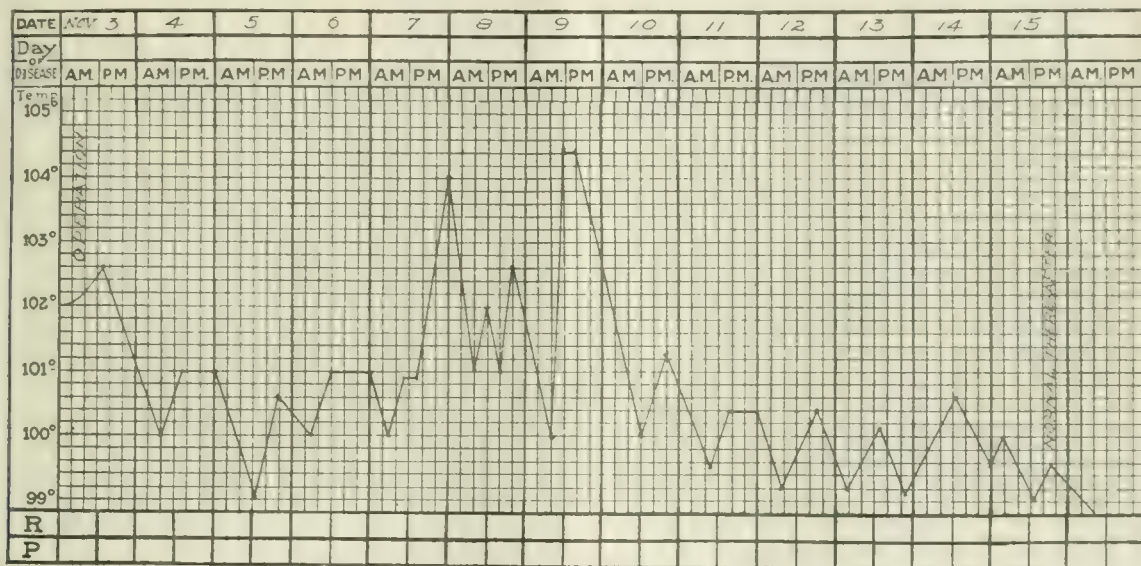
Result: It has been impossible to trace this patient.

CASE IX.—R. D.; male; aged twelve years. This boy was operated upon in the Manhattan Eye and Ear Hospital, on October 17, 1902, for acute mastoiditis. On October 20th following he was there operated upon for sinus thrombosis. He then gradually improved until the tenth day, when he was suddenly seized with severe colicky pains in the right upper abdomen, which became very tender. On the twelfth day he was transferred to this hospital. Temperature, 102.5°; pulse, 100. Leucocytes, 23,000. He had had no chills. On examination, there was a tender prominence over the liver extending down to the navel. Operation, November 3, 1902. Incision over the right rectus. Abscess cavity was found two inches below the surface, containing thick pus. Forty-two days after this operation



he developed an abscess in the left groin, which required opening. Immediately succeeding the operation he developed a pneumonia of the base of the right lung. Discharged, cured, on the fifty-eighth day.

to remember the changes in the circulating blood which these conditions bring about. The presence of a purulent exudate and an absorption of toxine result in an increase in the



Result: It was impossible to subsequently trace this patient.

50 EAST FIFTY-THIRD STREET.

VALUE OF THE BLOOD COUNT IN SEPSIS.*

By FREDERIC E. SONDERN, M. D.,
NEW YORK.

In septic conditions the essential features are the presence of a purulent exudate and an absorption of toxine which, in part at least, gives rise to the systemic disturbances. The presence or absence of actual organisms in the circulating blood need not concern us here. It is essential

relative number of polynuclear cells in the differential leucocyte count, irrespective of body resistance. This absorption of toxine is also the stimulus to an increase in the number of leucocytes; provided there is sufficient body resistance to respond to this stimulus. Ample evidence seems at hand to justify the above theory, and if we accept it, then the percentage of polynuclear cells in a given specimen should give us information on the presence or absence of a purulent exudate, and the leucocyte count should indicate the body resistance offered by the patient toward this infection. Owing to the large number of factors concerned, arbitrary limits cannot be established, and we should seek the cause for apparent failures rather than condemn what

* Read before the Eastern Medical Society, March 9, 1906.

seems an established principle. This is not to convey the impression that further experience has overthrown the figures published on several occasions, but simply to repeat a caution that arbitrary limits are dangerous here as in any other physiological or pathological process. That cases are encountered which seem to belie this theory is not open to question, but careful analysis of the conditions presented usually explains the apparent divergence in these exceptional cases.

Briefly, cases of sepsis present the following: An increase in the relative proportion of polynuclear cells on differential count above eighty-five per cent., and the higher the proportion, the more virulent is the pyogenic process. This is associated with a greater or lesser degree of leucocytosis; and the higher the leucocytosis with a given percentage of polynuclear cells, the better ordinarily is the body resistance toward the infection at the time the blood examination was made. A slight polynuclear increase with pronounced leucocyte increase indicates slight infection and well marked body resistance. A pronounced polynuclear increase associated with a pronounced leucocytosis indicates a severe infection and good body resistance. A pronounced polynuclear increase and little or no leucocytosis indicate a severe infection and little or no body resistance. The observation is not recent that an absence of leucocytosis in severe inflammatory lesions is a bad prognostic sign. If a differential count is made the high relative polynuclear percentage will also be found. An increasing polynuclear percentage and stationary or decreasing leucocytosis indicates an increasing degree of infection and decreasing body resistance. A decrease both in the polynuclear percentage and in the leucocytosis denotes improvement.

On these broad general principles the blood examination gives one information in septic conditions which cannot be obtained in any other way. The examination of the blood in no manner replaces the blood culture. The blood examination is a clue to the patient's condition at the time, while the culture is for the purpose of learning if the causative organisms are circulating in the blood and if so, then to determine the exact nature of this infection.

The time at my disposal will not permit an account of practical experiences based on this principle, but I must voice the conclusion that careful observations in close to 2,000 surgical cases, strengthen rather than weaken my belief that a complete blood examination is a valuable adjunct in surgical diagnosis and may present diagnostic and prognostic data at a time when the clinical picture is confusing. Before closing these remarks I beg your attention to a few points concerning the failures and disappointments encountered in the application of this principle. When pus is confined by dense pyogenic or fibrous membrane, in other words, when no absorption of toxine occurs, there is no leucocytosis and no polynuclear increase. While this scarcely applies in acute inflammatory lesions and certainly not in sepsis, still it must be remembered when considering blood examination in surgical practice.

Polynuclear increase and leucocytosis occur also in pneumonia, erysipelas, scarlet fever, and at times in malignant disease which would indicate the occasions on which the blood examination might convey erroneous impressions, and the times at which it would be of little value in the differential diagnosis.

Experience also teaches that a septic condition occurring as a secondary or mixed infection with tubercle bacilli, typhoid bacilli, and possibly a few others, presents a lower relative polynuclear percentage than we would obtain if the staphylococcus or streptococcus infection was a primary one. The fact is obvious that if the underlying condition is not recognized, these less marked changes in the blood might lead one to underestimate the severity of the septic process from the blood point of view. Purulent exudates due solely to tubercle bacilli or typhoid bacilli show no leucocytosis and no polynuclear increase.

Suppurative processes in and about the bile passages, the appendix, the uterus, etc., are frequently associated with a clinical picture of sepsis and with a typical blood condition indicating a purulent exudate. The rupture and discharge of this exudate into the intestine or vagina as the case may be, may lead to sudden improvement and recovery, may escape clinical observation, and thus may lead to attack on the method I advocate.

A clinical diagnosis of appendicitis, acute mastoid disease, etc., is sometimes accompanied by a blood picture indicating the presence of pus and the subsequent course of the condition demonstrates that no purulent exudate is present. But some insignificant lesion such as a suppurative ingrown toe nail, a small boil in the nostril, and in another case a suppurative periostitis due to a bad tooth, create a blood picture indicating pus which is erroneously referred to what seems the graver lesion. An exceedingly small percentage of cases of error remains unexplained by the above, and in these one must conclude that the particular specimen of blood examined does not truly represent the condition of the circulating blood. Even if the technics is as good as understood to-day, it is evident to any one who examines many of these specimens that different slides and different drops of the diluted blood vary, that errors occur not only in the count, but that any particle of blood does not necessarily show exactly the same picture noted in some other particle; and this seems to justify the inference that at times, though rarely to be sure, we are led astray by drawing conclusions from a specimen which is not a proper indicator of the really existing condition.

200 WEST FIFTY-SIXTH STREET.

AN UNMENTIONED MEANS OF PUERPERAL INFECTION.

By GEORGE W. GREENE, M. D.,
AUBURN, N. Y.

A number of years ago I was engaged to attend a young woman at her first confinement. The husband at one time had thought seriously of studying

medicine, and, in fact, had not yet given up hope of some day being a physician. Though at the time he was handling hides for a hide merchant, he had in some way gained possession of a book on obstetrics, which he had studiously read. He had watched the course of pregnancy of his wife with great interest and had made almost daily vaginal examinations, and was, in fact, in the act of examining when I arrived, and informed me that the cervix was as large as a dollar. The labor was perfectly natural, but two days later the patient was taken with a serious chill, which was followed with a terrible attack of puerperal fever. The lady eventually recovered, but was perfectly blind in one eye and partially so in the other from an intercurrent attack of optic neuritis. Can there be any doubt but that germs had been carried from the filthy hides which the husband daily handled to the vagina of the wife? Ever since, when engaged, I always lay particular stress on the fact that neither the wife nor the husband shall handle the genitals of the wife.

Therapeutical Notes.

Deodorized Oil of Gaultheria.—Petit, of Lyons, states that the addition of two per cent. of oil of lavender will deodorize methyl salicylate.—*Journal de médecine*, April 8, 1906.

Gargle of Iodine.—Torchut prescribed the following:

R Potasii iodidi,) 0.50 gramme, or gr. viii;
Iodi.)
Tr. opii, 4 grammes, or ʒi;
Glycerini, 120 grammes, ʒiv.
M. Sig.: A dessertspoonful, to be added to a glassful of warm water, and used three times a day, as a gargle.

La Quinzaine thérapeutique, April 10, 1906.

Treatment of Prurigo with Pilocarpine.—Simon, of Breslau (*Journal de médecine*, April 8, 1906), in cases of prurigo in adults, gives an injection of pilocarpine hydrochloride (0.005 grammes in distilled water) once daily. In the course of a few days the itching is less aggravated and then disappears, although relapses may occur. In some cases he gives by the mouth a syrup of jaborandi (leaves, 3 parts; sugar, 18 parts; water, 15 parts) in doses of two or three spoonfuls a day in place of the pilocarpine injections.

Iodized Solutions as Surgical Antiseptics.—The extemporaneous solution made by the addition of a certain quantity of a saturated alcoholic tincture of iodine to very hot water, so as to produce a clear brown solution, is used by Sgambati (*Revue française de médecine et de chirurgie*, No. 7, 1906) as an antiseptic in surgical operations, and for injection into suppurating sinuses and cavities. It is also used as an emergency dressing for simple accidental wounds previous to introducing sutures. He has never witnessed any unfavorable results, and not even an iodine reaction in the secretions or excretions.—Through *Le Bulletin médical*.

Effects of Tuberculin When Swallowed.—Calmette and Braton read a note before the Académie

des Sciences (*Le Progrès médical*, March 24, 1906) upon the effects of tuberculin when absorbed by the digestive organs. They determined the fact that when tuberculin is swallowed by tuberculous animals, it produces the same reaction as when injected under the skin. It is also toxic for healthy animals, especially when they are young. When animals are made to swallow a small quantity, we may, in suspected cases, obtain a constant febrile reaction. The reporters believe that this method will furnish an easy method of establishing a diagnosis in doubtful cases of tuberculosis.

Vaccination for Tuberculosis in Animals.—The Société de médecine vétérinaire (*Annales de la société vétérinaire* and *La Presse médicale belge*, May 6, 1906) have published the results obtained in animals by Behring's method. They found that a mild attack of tuberculosis in cows, which was recovered from, confers upon the organism a marked power of resistance—although not absolute—against a subsequent grave infection. The second infection was made experimentally by intravenous injection, according to von Behring's method. This was found to be inoffensive in animals which were kept isolated for the following six weeks, and protected from sources of accidental infection. The vaccination enables the animals to resist, at least for several months, the natural contagion resulting from living with infected cattle. The method confers a considerably increased resistance against even the most severe forms of experimental infection. The immunizing bacilli utilized by von Behring constitute, therefore, true vaccines. In order that the experiment shall be successful, it is necessary that the infected animal shall be kept isolated during the treatment, and free from any source of accidental infection. Further experience is required to fully establish the value of these observations. The great difficulty in this method of vaccination against tuberculosis in animals consists in keeping them in contaminated surroundings, and subjected to the resulting latent infection.

Prophylactic Administration of Calcium Chloride as a Means of Preventing Eruptions in Sero-therapy.—Arnold Netter reported to the Société de Biologie (*Le Bulletin médical*, March 28, 1906) that one of the most frequent results after the injection of a dose of serum was the appearance of an urticarial eruption, and that thus far no method had been devised to prevent this unpleasant sequel. He had found, however, that the administration of calcium chloride in the dose of one gramme a day on the day of injection and for two days following constituted an efficient prophylactic in a large proportion of the cases. Out of 252 patients who took the remedy as directed, there were only six cases of eruption (2.38 per cent.), whereas in others (258 cases) it was 15.53 per cent. The administration of calcium chloride does not in any way impair the action of the diphtheritic antitoxine; the mortality in the two groups being the same, or nearly so. This use of calcium chloride was the outgrowth of the observation of A. E. Wright that this agent has a

useful action in the treatment of urticaria of all kinds, and especially that which is provoked by antidiphtheritic serum. The calcium chloride may be replaced by other salts, and notably by the lactate, which has no taste and is also very soluble. The chloride can be given in syrup of mint.

The Dry Treatment of Wounds in the Boer War.—On account of the scarcity of water in Southwest Africa, the military surgeons were obliged to use as little as possible, and it was necessary to work with the simplest material. Wounds, therefore, were almost exclusively treated by the dry method, according to Goldammer, of Hamburg (*Wiener medizinische Wochenschrift*, April 28, 1906), in a communication to the Congress of the German Surgical Association in Berlin. As a first dressing, iodoform gauze was laid upon the wound and held in position by a roller bandage, or by adhesive plaster. When bones were injured, splints were applied or a plaster dressing. The proper fixation of the fragments of broken bones or gunshot lacerations was found to be of the greatest importance to the progress of wound healing. Although the patients had to be transported long distances by these methods, very good results were obtained, especially in gunshot fractures of the upper part of the thigh. Where fixation could not be maintained, suppuration occurred as the rule. Out of 104 cases, eighty-seven patients healed by primary intention. In fourteen cases suppuration occurred (three of them were fatal) of imperfectly controlled gunshot fractures of the thigh bone. In only three cases did erysipelas occur. More than fifty per cent. of the wounded were able to return to duty.

Treatment of Laryngeal Tuberculosis by Silver Fluoride.—Megnon, of Nice (*Revue hebdomadaire de laryngologie, d'otologie, et de rhinologie*, April 28, 1906), calls attention to a remedy very infrequently employed, but which he had used systematically for two years in a number of cases who at present are well. After several trials he gives the preference to a one per cent. solution with which he makes rather energetic applications to the affected mucous membrane. In patients who support this treatment well he does not employ cocaine, but in other patients he causes preliminary local anæsthesia, according to the extent of the disease and the susceptibility of the patient. The silver fluoride is only slightly caustic, and does not cause severe pain after the application; on the contrary, the pain caused by the lesions is relieved on the day or two after its use. This, however, is not always the case, as patients differ in the degree of suffering, according to the location and extent of the lesions, and the condition of the nervous system. The suffering is relieved more or less then according to the condition of the individual patient. The author gives the preference to silver fluoride applications when the larynx reacts violently, and where there are attacks, either of intense congestion or of spasm. Also when there are very painful ulcerations. He does not, however, abandon for it all the other topical remedies usually em-

ployed, such as lactic acid, sulphuric acid, phenol, balsam of Peru, and guaiacol, which all have their appropriate applications. The silver fluoride has one very useful indication: it may be used with advantage to complete the endolaryngeal surgical treatment with the forceps or the cautery. Good results have been obtained in such cases of after treatment with this agent.

Treatment of Grippe in Infants.—Laumonier (*Revue française de médecine et de chirurgie*, No. 6, 1906) calls attention to the importance of protecting the child from various forms of infection, to which it is particularly susceptible after having had an attack of grippe. The infant having lost mineral constituents, being in a weak and wasted condition and the victim of a general asthenia, is a good culture ground for infections of the gravest character. The natural forces of the organism, therefore, should be strengthened, and in the main this constitutes the treatment. The details are antiseptics and hygiene in the first place. The upper air passages should be irrigated several times a day with water containing a little boric acid; and a warm bath should be given daily. The patient should be placed in a large, sunny well ventilated room, and he must remain strictly in bed until convalescence is assured. This may require a month, or even two or three months may be necessary. The patient should not be fatigued, but may be amused with toys or light distraction suited to the child's age. As regards food, the diet should be chiefly milk (about 60 grammes per kilogramme of the weight of the infant, this to be given in six doses during the day). Warm broth or gruel may also be given with a little sugar, brandy, or juice of an orange. If the fever is rather high, diminish the quantity of food, and use cooling baths, reducing the temperature after the child is in the bath. The child should be kept quiet. As regards remedies, it is important at the beginning to give a light purgative. In case of development of catarrhal bronchitis, applications of tincture of iodine, or turpentine stupes, or sinapisms are useful. Internally he recommends terpin (0.1 to 0.3 gramme, according to age), ammonium chloride (two or three times during the day to relieve bronchial congestion; bromide in case of severe cough, or antipyrine (0.50 gramme, or gr. viii daily). Tonic doses of quinine may be given at the outset of the attack. In order to prevent contagion, the patient should be kept isolated and antiseptic washes for the nose, mouth, and throat should be used. Disinfection of the linen and other objects used by the patient should be carried out. During convalescence the child should be taken to the country or to a sanatorium or mineral springs. Hydrotherapy is very valuable, and especially a cold bath each morning or warm baths with frictions. The diet should be rich in mineral elements, milk, eggs, rice, potatoes, but no bread; and only very little tea or coffee with milk. Constipation is to be avoided. As the child's strength returns, he is allowed gradually to take more exercise in the open air. The glycerophosphates are useful adjuncts to the hygienic treatment.

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**THE NEW PRESIDENT OF THE AMERICAN
MEDICAL ASSOCIATION.**

It is gratifying to observe signs that of late years the association has emancipated itself from the idea of geographical rotation in the presidential office—that a Northern had to be followed by a Southerner and an Easterner by a Westerner. In rapid succession one Louisville physician, Dr. McMurtry, has followed another, Dr. Mathews, and now a New Yorker, Dr. Wyeth; has been closely followed by another New Yorker, Dr. Bryant.

Dr. Joseph D. Bryant, the newly elected president, is thoroughly representative of the New York profession. For many years he has been prominent as a practitioner and teacher in New York, and the honor in which he is held has been attested by his having been chosen, at different times, for the presidency of the New York Academy of Medicine, of the New York State Medical Association, and of the Medical Society of the State of New York. We are not implying that Dr. Bryant's allegiance to the medical profession is circumscribed by geographical lines; indeed, while New York has been the scene of his professional activity, he has ever been mindful of the interests of the entire body medical and always assiduous in their promotion. Nevertheless, it was a graceful act for the American Medical Association to mark the year of the restoration of harmony in the profession of the State of New York, after more than a score of years of discord, by choosing a New York man for its

president, and the choice could not have fallen upon a better man than Dr. Bryant.

Dr. Bryant's record as a presiding officer and as a counsellor in committee work is such as to furnish an unquestionable guarantee that under his presidency the affairs of the association will be conducted with dignity, energy, and wisdom, so far as their conduct lies with the president. We may confidently assume that the work to be done at the Atlantic City meeting next year will be found to have been carefully and conservatively laid out, and with equal confidence we may look forward to the proper management of the meeting itself. In recent years many distinguished men have occupied the presidential chair, and we may be sure that its dignity and efficiency will be worthily maintained by Dr. Bryant.

HIGH FREQUENCY CURRENTS.

Dr. Piffard's article, published in this issue of the *Journal*, seems to us to be one that all practitioners of medicine would do well to study. The physics of the currents is expounded by the author as intelligibly as can be done on paper, but the most satisfactory way of obtaining a working knowledge of the management of apparatuses to be employed is doubtless by oral teaching and demonstration, and it is to be hoped that teaching of the subject in that manner will soon be widely employed in our medical schools. But it should go hand in hand with thorough instruction in the physiological actions of the currents.

Though it is to its use by the general practitioner that Dr. Piffard looks for the best results of the d'Arsonval treatment, perhaps it is hardly to be expected that the necessary technical knowledge and the requisite appliances will soon be possessed by physicians in general; consequently the few who have made a special study of the subject must for the present be depended upon to carry out the treatment. A like condition, however, applies to the use of the Röntgen and other rays that are still far from having been mastered by either the diagnostician or the therapist.

The stimulation of metabolism that seems to be prominent among the actions of high frequency currents appears clearly enough to point to their employment in conditions that we are accustomed to speak of, somewhat loosely perhaps, as gouty. As to their effects in pulmonary and other deep seated tuberculous disease, it seems highly desirable that physicians of pulmonary sanatoria and others having to do particularly with the treatment of consumptives should test the currents on a large scale. It is Dr. Piffard's present im-

pression that nobody prominently so concerned has yet made a trial of them, but he adds that it would give him pleasure to learn that in this he was mistaken.

The employment of the currents in the treatment of superficially localized disease we must regard as still further calling for more extensive investigation, and this seems to be the opinion of Dr. Piffard himself. There is a long list of local affections in which the use of the currents might be found to be beneficial, and probably the trial would be fraught with little if any risk of aggravating the trouble. We hope therefore to see it made.

MODERN MORTALITY IN CHILDBED.

In the March issue of the *Bulletin of the Lying In Hospital of the City of New York*, Dr. James A. Harrar tells a striking story of the life saving operation of the midwifery of the present day. He gives the maternal mortality in 32,000 cases of confinement in tenement houses as 114, or one death in about every 280 deliveries. Among the 114 deaths there were twenty-one of women sent into the hospital from the out patient service because they could not be cared for in their homes.

The out patient service of which Dr. Harrar gives us the mortality statistics is largely carried on in the lower part of the town, which is among the most crowded urban centres in the world. Filth, he says, is more prevalent than order and cleanliness in the houses, and the tenants are herded together in a manner almost incredible. "A family," he adds, "may include as many as a dozen individuals, adults and children, and all of these, together with possibly several 'boarders,' are crowded into a few small and usually poorly ventilated rooms." The poverty is such that it is only in comparatively few instances that any preparations can be made for the arrival of the new baby. Aside from other complications, therefore, the obstetrician has to deal with patients whose resisting powers are lowered by illness or insufficient food, women who, from the very nature of their surroundings, are particularly susceptible to septic infection.

It is in the highest degree creditable to the physicians of the out patient service that, with such difficulties to contend with, they have been able to make the favorable showing embodied in the statistics. It is in striking contrast with the general returns of but a few decades ago. But it is not unique; it is but an example on a large scale of the wonderful reduction that modern science has effected in the mortality of childbed. Septic infection did indeed cause twenty-seven deaths, about one death among 1,200 women. This is

not to be wondered at when we realize that middlesome midwives were in attendance at the outset in most of the cases, and a physician was not called upon until the midwife recognized that she was unequal to the requirements of the case. Death in childbed is a doubly woful event, and the medicine of our times has few things of which it may be prouder than of its tremendous reduction of the maternal mortality. There is now no excuse for epidemics of puerperal fever, and the establishment and maintenance of aseptic conditions are to be credited with the passing of such deadly visitations. But to improved technics, of course, we must ascribe much of the diminished exposure to infection and exhaustion.

MODERATE EXERCISE AND OUTDOOR AIR.

It is no wonder that the daily papers gave such prominence to the feat of Mr. Weston, who at the age of sixty-eight walked from Philadelphia to New York, nearly a hundred miles by the road, in less than twenty-four hours. Very few men so far in their seventh decade that they can practically be considered septuagenarians would be able to accomplish a like feat. To those who remember the sensation created by Weston's pedestrian efforts not long after the middle of the nineteenth century it must seem almost impossible that this is the same Weston, still active and stirring in the twentieth century. His career is a lesson in that cultivation of moderate exercise performed in the open air which was characteristic of the first part of the last century and which specialism in athletics has almost succeeded in extinguishing.

The present strenuous generation would scarcely be satisfied with anything so tame as mere pedestrianism. The least that receives attention is a cross country run over hill and dale for many miles at high speed. It is very doubtful if the winners of such heart straining contests will have anything like Weston's powers of endurance at his age. It is still more doubtful if any of them will be able to repeat the feats of their mature manhood. Anyone who has examined the heart of the over strenuous present day devotee of athletics after one of his contests will not be likely to infer that such exercise is entirely beneficial, even though he may not be ready to pronounce it absolutely harmful.

It would seem that all the weight of medical opinion should be exerted in favor of the more wholesome exercise that may be secured without the necessity of enduring such severe physical strains. There has long been the impression that our athletic men were not long lived and that

competition exhausted so much vitality as often to leave them open to infections and to that premature breakdown that is all too frequent. For health purposes certainly moderate exercise in the open air, such as walking, is far ahead of severer exertion.

THE CAUSE OF THE GROWTH AND ACTIVITY OF THE MAMMARY GLANDS.

The phenomena of the hypertrophy of the mammary glands during pregnancy and the establishment of lactation after labor are familiar. Physiologists have been inclined to attribute these manifestations to some controlling influence of the nervous system, although it is stated that the bond of connection between the mammary glands and the uterus appears to be through the circulation (*American Textbook of Physiology*). Dr. J. E. Lane-Claypon and Professor E. H. Starling (*Proceedings of the Royal Society*, May 18th) report the results of experiments instituted to determine the cause of these phenomena. They employed rabbits and found that if a Porro operation was done at any time before the fourteenth day of gestation, the development of the mammary glands ceased at once and retrogression began. Moreover, no milk appeared. If, on the other hand, the operation was done after the fourteenth day of gestation, milk could be expressed from the nipples two days afterward.

The most obvious explanation of these facts is that the removal of the stimulus which during pregnancy causes hypertrophy of the mammary glands produces the secretion of milk. In order to determine the nature of the substance which induces the hypertrophy of the mammary glands, virgin rabbits were injected with extracts of ovaries, uterus, placenta, and fœtus. In six instances the authors succeeded in producing, by the injection of extracts of fœtuses, a growth of the mammary glands similar to that occurring during the early stages of pregnancy. They conclude that some or all of the tissues of the fertilized ovum produce a hormone which is absorbed into the maternal blood from the placenta and is capable of producing hypertrophy of the mammary glands. A superabundant supply of nutrient material in the fluids surrounding the acini of the gland may also lead to proliferation of the organ, as was shown in one of their experiments. It may be said, then, that the growth of the mammary glands during pregnancy is due to the action of a specific chemical stimulus which is produced in the fertilized ovum. Lactation is due to the removal of this substance, which must be regarded as exerting an inhibitory influence on the gland cells, hindering their secretory activi-

ties and furthering their growth. It is probable that the specific substance is diffusible and that it is not destroyed by boiling.

THE CAUSES OF BALDNESS.

The relationship between seborrhœa and calvities has been almost universally acknowledged, and the pernicious activity of various microbes commonly admitted as a sufficient cause of both conditions. Even grayness of the hair is alleged by Metchnikoff to be due to a pigment devouring microorganism. A new explanation for baldness, however, has been given by Lucien Jacquet (*Quinzaine thérapeutique*, March 15th), who reviews the subject carefully and arrives at the conclusion that the trouble has in most cases at least, a nervous origin.

He calls attention to the fact that the condition is more common among intellectual persons than among others. He is convinced that baldness is of frequent occurrence, not only among those who are intellectual, but also among those who are subjected to intense mental strain, and under such circumstances it may occur comparatively early. Baldness increases with civilization, and Brocq has noticed the curious fact that since women have devoted themselves to intellectual pursuits, and have grown accustomed to employ their cerebral centres in a more intense manner, baldness, which formerly was rare among them, has progressively become more frequent.

Furthermore, Jacquet has found in several cases of early baldness that there is a degenerative inflammation of the nerves of the scalp. He concludes that the functional excitation of the higher nerve centres in the struggle with the environment at first caused an increased growth of the hair. Subsequently, in the evolution of the race or of the individual, there came a period of functional exhaustion. This is held to be in accordance with the law that excitation at first creates increased vigor of a function, then of its organ; similarly, excess of irritation causes functional disturbance and, if continued, lesion of the organ.

TINEA IMBRICATA.

Tinea imbricata is a disease of the skin characterized by a circular arrangement of scales and due to a fungus belonging to the trichophyton group. It was originally described from eastern tropical countries, but it is common also in Brazil, where it attacks every race and all classes. The aborigines call it "*roôro*," "the flying disease," because they imagine that their enemies blow it in the direction of their huts to cause them harm.

Ulysses Paranhos and Caramurie Paes Leme (*Journal of Tropical Medicine*, May 1st) describe a method of treatment which is employed by the aboriginal Brazilians. The bark of the root of *Ocalia perdiceps* is macerated in cold water, and on the following day the macerated bark is rubbed over the entire body of the patient, after which he is exposed to the action of the sun's rays for half an hour. He is then washed in cold running water and his skin is rubbed with the ashes of the plant. The same treatment is repeated every three days until the complete recovery of the patient. The first treatment is followed by considerable constitutional reaction, of which delirium is sometimes a prominent feature. The authors describe a method of obtaining the fungus from the scales of the disease, as well as methods of staining the parasite thus prepared. They have found that a modified treatment with the macerated bark of *Ocalia perdiceps* gives the best results. The disease appears to be spreading in Brazil since the first case was discovered in the State of Goyaz.

THE DISSEMINATION OF SMALLPOX.

The more thorough our knowledge of the acute infectious diseases becomes, the more restricted is the number of diseases which are considered to be due to an air borne contagium. The dissemination of diphtheria is no longer ascribed to infection through the air, and malarial disease and yellow fever are now known to be disseminated by the bite of an infected mosquito. Smallpox is one of the serious infectious diseases the extension of which still baffles us. It is believed by many observers that the contagium of this disorder is transmitted through the air and by fomites. If a certain microorganism proves to be the cause of the disease, it is quite likely that we shall at some time abandon our present notion of an air borne contagium. The experiments of Brinckerhoff and Tyzzer (*Philippine Journal of Science*, April) have shown that smallpox fomites have no power to convey that disease to monkeys. It is true that the disease produced in monkeys by the inoculation of smallpox virus differs from variola vera in man; but is it not possible that an inoculation of monkeys in the natural way, that is, in the same manner that man is infected, might produce variola vera? Is it not possible that the cytoryctes, assuming, for the sake of argument, that that organism is the cause of the disease, may be conveyed from patient to patient by the bite of an insect? Against this possibility is the fact that smallpox appears to spread in cold weather, when insects are not active. However, epidemics of smallpox often

begin in the autumn, at a time when malarial infection is particularly virulent. Further, the fact that the *Cytoryctes variolæ* is a protozoan parasite, like the parasite of malaria, may point to an analogy in the method of transmission.

Obituary.

MARY PUTNAM JACOBI, M. D.,
OF NEW YORK.

This lady's death, after a protracted period of pronounced physical disability, removes from the profession of New York a personality that will long be remembered with the highest feeling of honor. She was among the first of our women to enter upon the study and practice of medicine and one of the earliest women graduates of the University of Paris. It was in the early sixties, when she was hardly out of her 'teens, that Miss Putnam began to visit the hospitals as a spectator, apparently to assure herself in that tentative way that a regular course in medicine would not turn out to be repugnant to her. Modestly avoiding the formal afternoon visits of the attending physicians and surgeons, with their crowd of male students, she was content to make the rounds in the morning with the members of the house staff. In this way she must have acquired quite a stock of practical information, especially as to the art of bandaging, before she entered upon the regular curriculum; and yet, since the young men of the house staff were not given to generalizing aloud, she was saved from imbibing ideas which she might have had to unlearn subsequently.

At that time, though the Blackwell sisters had won general esteem, it was nothing short of an act of bravery for an American girl to enter upon a medical career. But Miss Putnam set about it unflinchingly. She began her regular studies in Philadelphia and subsequently took her degree in Paris. On her return to New York she entered upon practice at once and soon took up the work of teaching in the Woman's Medical College of the New York Infirmary, which by that time the Blackwells had established on a firm basis. She joined medical societies, and she wrote for the journals. She took an active part in medical discussions, and she was always positive in what she had to say, though she put it forward with becoming moderation. She was invariably listened to with the utmost respect and attention.

Early in her career as a practitioner she was married to Dr. Abraham Jacobi, but her duties as a wife and mother, which she never neglected, did not dampen her professional ardor; she continued in active practice, in study, and in teaching until she was physically incapacitated for further work. It was characteristic of Dr. Jacobi that she abhorred superficiality; she made an exhaustive study of anything to which she turned her attention, and nothing in medicine escaped her. In every way she was a remarkable woman, and there have been few of either sex who have more impressed themselves upon the medicine of their time.

News Items.

NEW YORK CITY AND STATE

The Geneva (N. Y.) Medical Society.—The programme for a meeting held on the evening of Friday, June 8th, included a paper on *Anæsthesia* by Dr. J. B. Young, and a lecture on *Thermometers*, illustrated by stereopticon views, by Dr. H. Y. Norwood.

The Medical Society of the County of Richmond, N. Y.—The following programme was prepared for a meeting held on Wednesday, June 13th: *The Processes of Reproduction* by Dr. Frank T. Oastler, of New York. Discussion by Dr. Townsend and Dr. Scales.

A Tribute to Dr. John Parmenter, of Buffalo.—On Friday, June 1st, the graduates of the Medical Department of the University of Buffalo presented Dr. John Parmenter with a loving cup as a token of their appreciation of his ability as an instructor. The presentation was made by Dr. Luther Thomas.

The Medical Society of the Borough of the Bronx.—The programme arranged for a meeting held on Wednesday, June 13th included the following papers: *Remarks on Cardiac Stimulation and Cardiac Stimulants*, by Dr. Morris Manges; *Clinical Study of Angina Pectoris and Coronary Sclerosis with Pathological Findings*, by Dr. Harlow Brooks.

The Buffalo Medical Clinic.—The annual meeting was held on Thursday evening, June 7, 1906, at the residence of Dr. Fred. Hoffman. Dr. Herman K. DeGroat gave an interesting demonstration, upon the subjects of the medical and surgical landmarks of the thorax and abdomen. The following officers were elected for the ensuing year: President, Dr. John Middleton; vice-president, Dr. Edward L. Frost; secretary-treasurer, Dr. George A. Sloan.

The Manhattan Pharmaceutical Association.—At a meeting to be held at the New York College of Pharmacy on Monday evening, June 18th, there will be presented a symposium on the *Ethics of the Allied Professions*, arranged as follows: The physicians' point of view will be presented by Dr. Reynold Webb Wilcox, Dr. F. E. Stewart, and Dr. J. P. Davin; the manufacturing chemists by Parke, Davis & Co.; Squibb & Son, and Sharp & Dohme; the medical press by Dr. H. Edwin Lewis; the pharmaceutical press by Mr. C. A. Mayo and Mr. E. C. Goetting; the pharmacists by William C. Alpers, D.S.C., and William C. Anderson, Phar. D.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Health Department, for the following statement of new cases and deaths reported for the two weeks ending June 9, 1906:

| | June 9 | | —June 2— | |
|------------------------------------|--------|---------|----------|---------|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 23 | 8 | 25 | 6 |
| Smallpox | 1 | — | 10 | 3 |
| Varicella | 96 | — | 85 | 1 |
| Measles | 808 | 31 | 931 | 38 |
| Scarlet fever | 188 | 10 | 192 | 18 |
| Whooping cough | 53 | 7 | 49 | 6 |
| Diphtheria | 313 | 13 | 347 | 57 |
| Tuberculosis pulmonalis | 378 | 174 | 351 | 179 |
| Cerebrospinal meningitis | 21 | 22 | 22 | 17 |
| Totals | 1,881 | 295 | 2,012 | 325 |

Society Meetings for the Coming Week:

MONDAY, June 18th.—New York Academy of Medicine (Section in Ophthalmology); New York County Medical Association; Hartford, Conn., Medical Society; Chicago Medical Society.

TUESDAY, June 19.—New York Academy of Medicine (Section in General Medicine); Buffalo Academy of Medicine (Section in Pathology); Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Society of the County of Kings, N. Y.; Baltimore Academy of Medicine.

WEDNESDAY, June 20th.—New York Academy of Medicine (Section in Genitourinary Diseases); New York Society of Dermatology and Genitourinary Surgery (private); Woman's Medical Association (New York Academy of Medicine); Medicolegal Society, New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society.

THURSDAY, June 21st.—New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Mass., Society for Medical Improvement (private); Medical Society of City Hospital Alumni, St. Louis; Atlanta Society of Medicine.

FRIDAY, June 22nd.—New York Society of German Physicians; Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, June 23rd.—New York Medical and Surgical Society (private); Harvard Medical Society, New York (private).

PHILADELPHIA AND THE MIDDLE STATES.

The Frankford Hospital has just purchased a lot of land, with the buildings, situated at Franklin and Wakeling Streets, Frankford. The new property will be used to extend the plant of the hospital.

The State Board of Dental Examiners of Pennsylvania held examinations in Philadelphia and in Pittsburgh, on June 5th, 6th, 7th, and 8th. One hundred and fifty-eight candidates presented themselves.

Home for Convalescents in Trenton, N. J.—By the benevolence of Misses May and Evelyn Fisk, Riverbend, a large estate on the Delaware river near Trenton, N. J., has been converted into a convalescent home for children from hospitals in New York.

Cooper Hospital.—The board of Trustees of the Cooper Hospital, Camden, N. J., are endeavoring to induce the city council of Camden to remit a tax of \$5,000 a year on the hospital property, recently assessed under a new law of the State of New Jersey.

Jefferson Medical College.—The eighty-first annual commencement of the Jefferson Medical College was held on June 4th. Dr. J. W. Holland, dean of the college, made the address. The degree of doctor of medicine was conferred upon over two hundred graduates.

Smallpox in Philadelphia.—As a result of the strenuous quarantine which we noted in our editorial columns recently, and of another similar quarantine established about ten days later, the May Grand Jury of Philadelphia County recommended "that the health authorities temper their zeal with respect for the liberties of citizens."

Grand Jury Advocates Hygienic Rules.—The same Grand Jury referred to above recommended that consumptive prisoners be isolated; and that street cleaning and flushing and ash collecting be done at night, because the consequent dust is injurious to the health. Two most excellent recommendations.

The Grossmann School for Nervous and Atypical Children.—The term exercises of this school will be held at Watchung Crest, Plainfield, New Jersey, on Saturday afternoon, June 16th, from three to five o'clock. Admission cards can be obtained on request. There will be an exhibition of pupils' work, which will be continued in the week following.

Smallpox at Bryn Mawr.—Smallpox continues to frighten the foolish. The Bryn Mawr (Pa.) hospital has precipitated a great deal of trouble by isolating a patient in a building over the county line, where he is attended by nurses. The residents of Bryn Mawr refuse to walk by the hospital and the managers of a railroad operated near by complain because the health of the employees is endangered. Why don't those who require it get vaccinated?

The College of Physicians of Philadelphia.—At the regular monthly meeting of the College of Physicians, held June 6th, Dr. S. Solis-Cohen read a memoir of the late Dr. David Denison Stewart. Dr. John B. Deaver read a paper entitled *Further Observations on Suprapubic Prostatectomy*. Mr. Jonathan Hutchinson, of London, England, was elected an associate Fellow. The honorary librarian reported forty-four additions to the library during May.

The Red Bank (N. J.) Sanitarium began the season of 1906 on Saturday, June 9th. The sanitarium is situated on the east branch of the Delaware river and affords an opportunity for the children of the congested portions of Philadelphia to spend a day in the country. Two steamboats run from Philadelphia to the sanitarium every hour. It is estimated that during the thirty years of its existence the sanitarium has cared for 2,000,000 children.

Personal.—Dr. Arthur A. Stevens has been elected professor of materia medica and therapeutics in the Woman's Medical College of Pennsylvania.

Dr. R. Walter Starr has been elected professor of clinical dentistry in the dental department of the Medicochirurgical College. Dr. L. Ashley Faught has been elected professor of operative dentistry, dental pathology, and therapeutics, and Dr. I. N. Bromell has been elected professor of mechanical dentistry, dental anatomy, and dental histology, and dean of the same institution.

The Medicochirurgical College of Philadelphia.—The annual commencement exercises of the Medicochirurgical College of Philadelphia were held on June 2nd. Rev. Dr. Robert Ellis Thompson, president of the faculty of the Boys' central high school, delivered the oration. The faculty gold medal and the Dr. Spencer Norris prize of the interest on an investment of \$11,000 for the highest general average was awarded to Dr. Charles C. Manger. The commencement of the departments of dentistry and pharmacy were held at the same time.

Charitable Bequests.—By the will of Joseph A. Seffarlen, St. John's Orphan Asylum receives \$5,000, St. Joseph's Home for Homeless Boys receives \$5,000, The Little Sisters of the Poor receive \$6,000, St. Vincent's Home receives \$5,000. St. Vincent's Maternity Hospital receives \$5,000, and St. John's Orphan Asylum for Orphan Girls receives \$5,000.

By the will of Hattie W. Swire the Baptist Orphanage receives \$1,000, the Children's Country Week Association receives \$1,000, the Home for Incurables receives \$500, the Home for Aged Couples receives \$500, and the Sanatorium Association receives \$500.

Scientific Society Meetings in Philadelphia for the Week Ending June 23, 1906.—Monday, June 18th, Northeast Branch, Philadelphia County Medical Society. Tuesday, June 19th, Dermatological Society; North Branch, Philadelphia County Medical Society. Wednesday, June 20th, Philadelphia County Medical Society, Business Meeting for members only; Association of Clinical Assistants of Wills Hospital; Franklin Institute. Thursday, June 21st, Northwest Branch, Philadelphia County Medical Society; Medical Society of the Woman's Hospital. Friday, June 22nd, Northern Medical Association.

The Medical Society of New Jersey will hold its one hundred and fortieth annual meeting at Atlantic City on June 19th, 20th, and 21st. The following titles are included in the programme: The Tendency of the Organism to Limit Pulmonary Tuberculosis, Dr. Theodore Senseman, Atlantic City; A Case of Oedema of the Larynx, Dr. F. C. Ard, Plainfield. Discussion opened by Dr. N. L. Wilson and Dr. T. R. Chambers; The Prevention of Scarletinal Nephritis, Dr. Floy McEwen, Newark; Fibroid Tumors of the Uterus, Dr. George H. Balleray, Paterson; Examination of Eyes and Ears of School Children, Dr. Linn Emerson, Orange; Annual Address by the Third Vice-President, Dr. David St. John. Hackensack: The Value of Tartar Emetic in the Treatment of Traumatic Tetanus and Cerebrospinal Meningitis; The System of Medical School Inspection of the Department of Health of the City of New York, Dr. Thomas Darlington, Commissioner of Health, New York; Oration in Surgery, Dr. Thomas W. Harvey, Orange; Oration in Medicine: The Study of Structure and Function in Its Relation to Practical Medicine, Dr. Joseph Tomlinson, Bridgeton; Metastatic Panophthalmitis, Dr. Charles J. Kipp, Newark. Symposium on Nutrition During the First Two Years of Life: (1) (a) Universal failure of maternal feeding. (b) Breast feeding, how best conserved. (c) Principles of infant feeding. (d) Methods of substitute feeding, empirical, commercial, mechanical, mathematical, natural, or rational. (e) Proximate factors in the nutrition of infants. Dr. Henry L. Coit, Newark; (2) Digestion of Fats, Proteids, and Carbohydrates in the first year, Dr. J. Finley Bell, Englewood; (3) Suitable diet during the second year, Dr. Margaret P. Brewster, Grantwood; (4) Disorders of digestion in the second year, Dr. Alexander McAlister, Camden; (5) The Aetiology of Rhachitis, Scorbutus, and Cretinism, Dr. August A. Strasser, Arlington; Diarrhoea in Infancy and Early Life, Dr. Irwin H. Hance, Lakewood; Some Dietetic Errors and their Effects, Dr. W. Blair Stewart, Atlantic City. Discussion opened by Dr. Philip Marvel, Atlantic City, and Dr. W. E. Darnell, Atlantic City; A Brief Study of the Clinical Evidence of Some Infections that Apparently Enter the System Through the Faucal Tonsils, Dr. Philip Marvel, Atlantic City. Discussion to be

opened by Dr. W. Blair Stewart, Atlantic City; The Surgical Treatment of Gastropotosis, Dr. Henry D. Beyea, Philadelphia. Discussion opened by Dr. G. K. Dickinson, Jersey City; The Omentum and Its Lesions, Dr. G. K. Dickinson, Jersey City; Symposium on Appendicitis; Aetiology of Appendicitis, Dr. T. H. Mackenzie, Trenton; Diagnosis of Appendicitis, Dr. Ellis W. Hedges, Plainfield; Complications and Sequels of Appendicitis, Dr. Paul M. Mecray, Camden; Treatment of Appendicitis, Dr. F. D. Gray, Jersey City.

The Health of Philadelphia.—During the week ending June 2, 1906, the following cases of transmissible diseases were reported to the Bureau of Health:

| | Cases. | Deaths. |
|--------------------------------|--------|---------|
| Typhoid fever..... | 170 | 28 |
| Scarlet fever..... | 25 | 1 |
| Smallpox..... | 1 | 0 |
| Chickenpox..... | 69 | 0 |
| Diphtheria..... | 113 | 10 |
| Cerebrospinal meningitis..... | 9 | 2 |
| Measles..... | 309 | 7 |
| Whooping cough..... | 65 | 13 |
| Tuberculosis of the lungs..... | 91 | 53 |
| Pneumonia..... | 68 | 33 |
| Erysipelas..... | 11 | 1 |
| Puerperal fever..... | 4 | 3 |
| German measles..... | 5 | 0 |
| Septicæmia..... | 1 | 0 |
| Mumps..... | 33 | 0 |
| Cancer..... | 21 | 25 |

The following deaths were reported from other transmissible diseases: Malarial fever, 1; tuberculosis, other than tuberculosis of the lungs, 13; tetanus, 1; dysentery, 1; diarrhoea and enteritis, under two years of age, 20. The total deaths numbered 444, in an estimated population of 1,469,126, corresponding to an annual death rate of 15.72 in 1,000 population. The total infant mortality was 104; under one year of age, 78; between one and two years of age, 26. There were 23 still births, males, 12; females, 11. The temperatures were seasonable. There was a total precipitation of 2.98 inches.

BALTIMORE AND THE SOUTH.

The Memphis and Shelby County (Tenn.) Medical Society.—The programme for a meeting held on Tuesday, June 5th, included the following papers: Otitis Media, by Dr. J. F. Hill; The Strenuous Life and Its Effects on Disease, by Dr. S. T. Rucker.

The Richmond (Va.) Academy of Medicine and Surgery.—At the last meeting of this academy, held on Tuesday, June 12th, the subjects for discussion were: Prevention of Epidemics of Contagious Diseases, by Dr. W. T. Oppenheimer, and Importance of Daily Supervision of Prisons and Almshouses, by Dr. C. V. Carrington.

The University of Virginia Medical Department.—The following appointments were made recently by the board of visitors: Dr. Charles H. Bunting, of Johns Hopkins University, to the chair of pathology; Dr. Reid Hunt, of the United States Public Health and Marine Hospital Service, Washington, to the chair of physiology; Llewellyn G. Hoxton, of Johns Hopkins University, adjunct professor of physics.

The Brazos Valley (Texas) Medical Association held its twenty-first semi annual meeting at Hearne on May 29th and 30th. The programme included the following papers: The Doctor's Relation to the Community, by Dr. D. Monroe, of Cameron; Shall the Profession Do Contract Work Cheaper than for the Public, by Dr. J. P. Oliver, of Caldwell; The Remarkable Cases I Have Seen, by Dr. W. A. Bedford, of Franklin; Rest as a Therapeutic Agent, by Dr. L. M. Barnes, of Thorndale; The Use and Abuse of the Stomach Pump, by Dr. J. W. Torbett, of Marlin; Fracture of the Clavicle and Its Treatment, by Dr. F. R. Collard, of Wheelock; "On the Spur of the Moment," by Dr. R. E. Bledsoe, of Somerville. Officers for the ensuing year were elected as follows: Dr. W. A. Bedford, of Franklin, president; Dr. R. E. Bledsoe, of Somerville; vice-president; Dr. A. S. Epperson, of Cameron, secretary and treasurer. Somerville was chosen as the next place of meeting.

The Mortality of Baltimore.—The report of the health department for the week ending June 2nd, showed a total of 166 deaths, compared with 181 the corresponding week of last year, 177 in 1904, and 165 in 1903. The annual death rate in 1,000 of population was: Whole, 14.54; white, 13.06; colored, 22.45. The principal causes of death were: Whooping cough, 5; diphtheria, 3; consumption, 20; cancer, 12;

apoplexy, 6; heart disease, 12; bronchitis, 2; pneumonia, 11; Bright's disease, 11; congenital debility, 8. The following cases of infectious diseases were reported for the week: Diphtheria, 13; scarlet fever, 10; typhoid fever, 38; measles, 41; whooping cough, 15; chickenpox, 9; consumption, 12. The report of the health department for the month of May, 1906, showed that there were 143 cases of typhoid fever and 12 deaths. The health commission called attention to the fact that the disease was not so serious as in May of last year, when there were 7 deaths out of 45 cases. There was only 1 new case of typhoid reported on June 1st from Woodberry. There were 867 deaths reported from all causes during last month, as compared with 753 for 1903, 869 for 1904, and 788 for 1905, for the corresponding month, comprising 323 white males, 318 white females, 109 colored males, and 117 colored females. There were 230 deaths of children under five years of age, being 26.55 per cent. of the whole number of deaths. The following infectious and contagious diseases were reported, as compared with the corresponding month of last year:

| 1905. 1906. | 1905. 1906. |
|--------------------------|---------------------------|
| Smallpox 2 | Mumps 5 |
| Diphtheria and croup 63 | Whooping cough . . . 60 |
| Scarlet fever 47 | Chickenpox 22 |
| Typhoid fever 45 | Tuberculosis 70 |
| Measles 744 | |
| | Totals 1,056 |
| | 532 |

The following were the principal causes of death:

| 1905. 1906. | 1905. 1906. |
|---|---------------------------|
| Typhoid fever 7 | Cancers 34 |
| Measles 13 | Apoplexy 27 |
| Scarlet fever 7 | Lockjaw 1 |
| Whooping cough . . . 3 | Heart diseases . . . 70 |
| Diphtheria and croup 4 | Bronchitis 24 |
| La grippe 5 | Pneumonia 95 |
| Erysipelas 1 | Bright's disease . . . 65 |
| Blood poisoning . . . 1 | Old age 12 |
| Consumption 115 | Suicides 9 |
| Other tuberculous diseases 26 | Accidents 25 |
| | Homicides 2 |

CHICAGO AND THE WEST.

Statement of Mortality in Chicago for the Week Ending June 2, 1906, compared with the preceding week and with the corresponding week of 1905. Death rates computed on United States Census Bureau's figures of midyear population—2,049,185 for 1906, and 1,990,750 for 1905:

| | June 2, 1906. | May 26, 1906. | June 3, 1905. |
|--|---------------|---------------|---------------|
| Total deaths, all causes | 465 | 580 | 467 |
| Annual death rate in 1,000 | 11.83 | 14.76 | 12.22 |
| Sexes— | | | |
| Males | 278 | 332 | 246 |
| Females | 187 | 248 | 221 |
| Ages— | | | |
| Under 1 year of age | 80 | 111 | 73 |
| Between 1 and 5 years of age | 51 | 48 | 71 |
| Between 5 and 20 years of age | 45 | 37 | 35 |
| Between 20 and 60 years of age | 205 | 271 | 201 |
| Over 60 years of age | 84 | 113 | 87 |
| Important causes of death— | | | |
| Apoplexy | 9 | 12 | 11 |
| Bright's disease | 41 | 49 | 37 |
| Bronchitis | 16 | 10 | 14 |
| Consumption | 60 | 71 | 47 |
| Cancer | 26 | 26 | 17 |
| Convulsions | 10 | 4 | 6 |
| Diphtheria | 6 | 8 | 8 |
| Heart diseases | 29 | 43 | 59 |
| Influenza | 0 | 3 | 0 |
| Intestinal diseases, acute | 24 | 23 | 23 |
| Measles | 7 | 9 | 9 |
| Nervous diseases | 19 | 18 | 24 |
| Pneumonia | 62 | 69 | 49 |
| Scarlet fever | 20 | 10 | 1 |
| Smallpox | 0 | 0 | 0 |
| Suicide | 4 | 7 | 14 |
| Typhoid fever | 4 | 10 | 7 |
| Violence (other than suicide) | 33 | 40 | 31 |
| Whooping cough | 6 | 3 | 15 |
| All other causes | 89 | 135 | 95 |

The College of Physicians and Surgeons of Chicago.—At the twenty-fourth annual commencement exercises, held on Tuesday, June 5th, the degree in medicine was conferred on two hundred and twenty-six graduates.

The Wisconsin State Medical Society will hold its annual meeting on June 27th, 28th, and 29th, at Milwaukee. Dr. John H. Musser, of Philadelphia, will deliver the address in medicine and Dr. A. J. Ochsner, of Chicago, that in surgery.

The Medicolegal Society of Chicago.—At the annual meeting, held on June 2nd, the following officers were elected for the ensuing year: President, E. J. Doering; vice-presidents, Mr. Andrew J. Hirsch and Dr. Carl Wagner; secretary, William L. Baum; treasurer, Joseph Madison;

counsellor to the Chicago Medical Society, E. J. Doering; alternate, Robert H. Haney.

The German Medical Society of Cleveland, Ohio, composed of about forty of the physicians of Cleveland, held its bi-monthly meeting in the Rose building, on Tuesday, June 5th. Dr. M. Loewenthal read a paper which was followed by a general discussion. The society was formed eight years ago by Cleveland physicians who had become friends while studying abroad in the German and Austrian universities. They conceived the idea of continuing the acquaintance and the fellowship formed while there and organized this society in consequence. The proceedings are carried on in German. Dr. E. Rosenberg is president; Dr. A. W. Lueke, vice-president; Dr. M. Kahn, recording secretary; Dr. W. E. Sampliner, secretary; and Dr. S. S. Berger, treasurer.

GENERAL.

The Association of Physicians of the French Language of North America will hold its third congress at Three Rivers, Province of Quebec, Canada, on Tuesday, Wednesday, and Thursday, June 26th, 27th, and 28th.

The American Gastroenterological Association.—At the ninth annual meeting, held at Boston, Mass., on June 4 and 5, 1906, the following officers were elected for the ensuing year: President, Dr. H. W. Bettmann, of Cincinnati; vice-presidents, Dr. Julius Friedenwald, of Baltimore, and Dr. F. H. Murdoch, of Pittsburgh; secretary and treasurer, Dr. Charles D. Aaron, of Detroit.

The Army Medical School.—According to *The Army and Navy Journal*, for May 26, 1906, the final examinations at the army medical school in Washington have been completed and all the men who were able to take the examination have been declared proficient. Contract Surgeons Albert G. Love and Harold W. Jones have been found proficient with honor. The following is the standing of the class in the order of merit: Contract Surgeons Albert G. Love, Harold W. Jones, Omar W. Pinkston, Hermon E. Hasseltine, Henry J. Nichols, Mathew A. Reasoner, Oswald F. Henning, Lucius L. Hopwood, and Charles E. Freeman; Major Vernon J. Hooper, surgeon, Michigan National Guard; Contract Surgeons Ferdinand Schmitter, Laurence P. Desmond, Henry B. McIntyre, Howard A. Reed, and Thomas F. Duhigg. Contract Surgeon John R. Hicks is sick in the General Hospital, Washington Barracks, D. C., and was not able to take the final examination. He will be given a special examination as soon as he is returned to duty. The final examination to determine the fitness of these contract surgeons for appointment as assistant surgeons in the U. S. Army will be held June 1 to 11. One of the brightest members of this class, Contract Surgeon Albert H. Wilton, died this week at the Army General Hospital in Washington from pneumonia.

The Committee on Food Standards, Association of Official Agricultural Chemists, which has been commissioned by the authority of congress to collaborate with the secretary of agriculture in fixing standards of purity for foods and determining what shall be regarded as adulterations therein, will hold its next meeting on June 18, 1906, at the bureau of chemistry, Washington, D. C. At this meeting the following schedules will be considered: Ice cream, vegetables and vegetable products, tea and coffee, malt and spirituous liquors; also standards for prepared mustard and cocoa butter and the description of a suitable container for preserved food products. For the last a revised tentative proposal was published for consideration on April 16, 1906; for the other classes of products above named, tentative standards are submitted by the bureau to serve as a basis for suggestion and criticism. The schedule for ice cream proposes a more specific nomenclature than is now in general use for products of this class. The extensive use of ice cream in the narrower sense of the term, stated in the first standard of this schedule, by physician's prescription for certain classes of invalids has given rise to a desire for a more specific use of terms in the sale of this important class of products. Correspondence respecting the foregoing schedules should be addressed to the chairman of the committee. It is requested that suggestions shall be expressed in the form of amendments, accompanied by the reasons therefor. Hearings respecting these standards will, as far as practicable, be arranged upon application. William Frear, chairman; E. H. Jenkins, M. A. Scovell, H. A. Weber, H. W. Wiley.

Pith of Current Literature.

THE BOSTON MEDICAL AND SURGICAL JOURNAL

June 7, 1906.

1. The Origin and Nature of the Blood Plates,
By JAMES HOMER WRIGHT.
2. Inflammation of the Frontal Sinus,
By HARRIS PEYTON MOSHER.
3. The Testimony of the Fathers, By A. E. P. ROCKWELL.

1. **The Origin and Nature of the Blood Plates.**—Wright has made a prolonged study of the comparative morphology of the blood corpuscles of a wide range of animals. From this he states that he is convinced that the blood plates are detached portions of the cytoplasm of those giant cells of the bone marrow and spleen which have been named megakaryocytes by Howell to distinguish them from the multinucleated giant cells of the marrow, the so called osteoclasts or polykaryocytes of Howell. The two constituents of the cytoplasm of the pseudopods and of the bud like processes of the giant cells are identical with the two substances making up the blood plates in staining reaction and textures and they are similar in their arrangement with reference to each other. Furthermore, all grades of transition exist between bud like processes of giant cells in process of detachment, or slender pseudopods showing signs of dividing into smaller parts by transverse division and the blood plates. In view of these facts the inference seems to be justified that the blood plates are detached portions of the cytoplasm of the giant cells.

2. **Inflammation of the Frontal Sinus.**—Mosher states that the x ray plate is the only means of telling whether the frontal sinus remains in the orbit as an undeveloped ethmoid cell or whether it comes on to the brow. The x ray in very many cases will show whether the sinus contains pus. Acute inflammation of the frontal sinus responds readily to treatment. In any except the most trivial of the acute cases the removal of the anterior end of the middle turbinate produces more benefit than any other form of treatment. In chronic suppuration of the frontal sinus syphilis should be ruled out at the start. With the exception of syphilis and trauma, very little is known of the etiology of chronic suppuration of the frontal sinus. The mucous membrane is the seat of the disease as the bony walls of the sinus are rarely involved. The prognosis is increasing invalidism from pain, from gastric disturbances and dizziness, and inability to use the eye. Occasionally in neglected cases the pus will necrose its way into the cranial cavity, but as a rule it breaks into the orbit or into the nose. Thus, suppuration of the frontal sinus is not as dangerous as suppuration of the mastoid. The three chief symptoms of chronic suppuration of the frontal sinus are interference with sight, pus in the nose, and chronic frontal headache. The pain may, however, be in the occipital region. Treating suppuration of the frontal sinus by catheter through the nose into the sinus is only palliative, seldom curative. The rational method of treatment is to open the sinus through an incision in the eyebrow and to see what the conditions are within it. Then remove all the mucous membrane, polypi, and septa, and make as large an opening into the nose as possible, and maintain this by intranasal work. This method will cure in a certain number of cases. If it does not cure it does not interfere with other procedures. It will always give relief to stormy symptoms. But the granulating method is, although longer, more successful. The same thing is true, however, of Killian's method. This does away with a small sinus as completely as the granulating method; but in another way, it turns the sinus into a widely open recess of the nose. A granulated sinus

can reinfect, and then everything has to be done all over again.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

June 9, 1906.

1. The Medical Profession and the Issues Which Confront It. President's Address at the Fifty-seventh Annual Session of the American Medical Association, at Boston, June 5-8, 1906, By WILLIAM J. MAYO.
2. The Nature and Progress of Malignant Disease. Oration in Surgery at the Fifty-seventh Annual Session of the American Medical Association, at Boston, June 5-8, 1906. By JOSEPH D. BRYANT.
3. How Progress Comes in Medicine. Oration on Medicine at the Fifty-seventh Annual Session of the American Medical Association, at Boston, June 5-8, 1906, By FREDERICK C. SHATTUCK.
4. The Cause of the Heart Beat (*Concluded*),
By W. R. HOWELL.
5. Ulcer of the Stomach: Pathogenesis and Pathology. Experiments in Producing Artificial Gastric Ulcer and Genuine Induced Peptic Ulcer,
By FENTON B. TURCK.
6. Trypsin in Malignant Growths, By W. A. PUSEY.

1, 2, 3. **President's Address, Oration in Surgery, Oration on Medicine**, at the fifty-seventh annual session of the American Medical Association, at Boston, June, 5 to 8, 1906, see *New York Medical Journal*, pp. 1190 and 1191, June 9, 1906.

4. **The Cause of the Heart Beat (*Concluded*).**—Howell reviews the history of the many theories referring to the causes and mechanism of the heart beat. From this review he concludes that the immediate cause of the contraction of the heart is a chemical reaction or a series of such reactions. In accordance with the knowledge of our day we may assume that the first step in this series consists in the dissociation, the falling into pieces of a complex, unstable molecule, and that this dissociation is followed by an oxidation of the split products. But it seems equally as probable or more probable that this initial step takes place really automatically or spontaneously, in consequence of the instability of the substance in question. The author's own work has convinced him that the calcium salts are in some way of prime importance in this matter of the initial dissociation of the energy yielding substance, but he does not believe that they act as direct chemical stimulus. Each contraction must be maximal, since it involves the dissociation of all the material existing in unstable form. The contraction must be rhythmic since, after each contraction a certain interval, which will be constant when the conditions are uniform, is needed for the production of more of the unstable material. In terms of the hypothesis the refractory phase should pass off gradually as new, unstable material accumulates, and this we know to be the case, since a weaker stimulus is required to force the heart to contract the later, it is applied in the diastolic phase. Which hypothesis may be correct we may congratulate ourselves at least that the labors of the experimental physiologists during the last quarter of a century have added to our store of knowledge this new and important fact, namely, that the inorganic salts of the blood and lymph play an essential rôle in the production of the heart beat.

2. **Ulcer of the Stomach: Pathogenesis and Pathology.**—Turck defines the term artificial gastric ulcer as an ulcer produced by experimental means as by some local, mechanical, or chemical injury, while under the term genuine induced peptic ulcer is meant an ulcer produced by more indirect and natural means, such as feeding methods, which he presents in his paper. He gives a history of the previous experiments of other investigators, following it up by his own work. The experiments of other investigators consist in mechanical and physical injury; chemical injury, with or without hydrochloric acid; general dysemia; disturbance of

local circulation; injuries to nerves and nerve centres; local infection; while the author's own experiments included: Mechanical, chemical, and local infection; injection of toxines, systemic disturbances, and injection of peptones. The experiments proved that ulcer of the stomach and duodenum can be produced in dogs by feeding *Bacillus coli communis* for a variable length of time.

6. Trypsin in Malignant Growths.—Pusey has followed up the experiments of Beard, of Edinburgh, with the use of trypsin in Jensen tumors in mice. The author used trypsin in seven cases of inoperable carcinoma in different parts of the body and in one inoperative round cell sarcoma of the thigh, beginning with injection of from five to ten drops daily, and in some cases rapidly increasing it to a maximum dose of sixty drops daily. All patients except one were hopeless cases from the standpoint of operation or x rays. In one case the patient received positive benefit, a carcinomatous mass in the pectoral muscles disappearing. In the other cases the author is positive that trypsin has done the patients harm.

MEDICAL RECORD.

June 9, 1906.

1. Circumcision.—Note of an Unorthodox Operation, with Some Historic and Ethnographic Observations on the (Nonsurgical) Practice. By JOHN KNOTT.
2. Some Clinical Observations on Salpingitis and Parametritis in Nulliparæ. By SAMUEL WYLLIS BANDLER.
3. Ionization by Means of the High Frequency Current in the Treatment of Tuberculosis. By ALFRED GOSS.
4. Fresh Air Homes and Medical Work in Connection with Them. By LINSLEY R. WILLIAMS.
5. Resection of the Stomach for Carcinoma. By FRANZ TOREK.

1. Circumcision.—Knott gives an interesting sketch of the history of the rite of circumcision and the methods used. From this it seems as if circumcision is the most ancient of all the surgical operations.

2. Some Clinical Observations on Salpingitis and Parametritis in Nulliparæ.—Bandler, from his reports of sixteen cases of salpingitis and parametritis, says that virulent gonorrhœa in the female results from infection by an acute, or persisting, or recent gonorrhœa in the male. The majority of pyosalpinges are to be attributed to the gonococcus of this class, while less virulent gonococci from old cases, in which examinations by microscope show pus cells, etc., but no gonococci, or from supposedly cured gonorrhœæ, produce a subacute and scarcely recognized infection of the cervix. Reinfection, labor, abortion, pregnancy, curettings, produce a recrudescence of the lesions, varying in severity according to the character of the original infecting cocci, and in proportion to the resistance of the tissues. Pregnancy, abortion, labor, curettings, favor extension in continuity in many cases of catarrhal infection of the cervix and uterus. The majority of cases of chronic nonpurulent parametritis and salpingitis are due to gonococci of a less virulent character. Many cases of cystic ovaries, tuboovarian cysts, perioophoritis, and peritoneal adhesions, are due to such a salpingitis. Numerous cases of pelvic pain, many cases of sterility, and many cases of ectopic gestation are the result of such forms of salpingitis, while milder degrees of salpingitis do not necessarily cause much pain or discomfort. If the tubercle bacillus, nonvirulent streptococci, and staphylococci, etc., may produce a mild salpingitis, then in nulliparæ the source of the two later forms of cocci may be a urethritis or prostatitis originally gonorrhœal. Since the gonococci are in the cervix and uterus, conservative operations always include the possibility of subsequent further invasions of the structures left behind. Since parametritis so often exists alone and so often complicates salpingitis, operations on the annexa cannot possibly free all patients of their annoy-

ing symptoms without due attention to this condition either before or subsequent to operative interference.

3. Ionization by Means of the High Frequency Current in the Treatment of Tuberculosis.—Goss uses high frequency current in the treatment of tuberculosis. He covers the back of the patient with tinfoil connected with a chain, which is grounded, when treating the chest, while the chest is covered when treating the back; and uses a current of from 250 to 500 milliamperes, and about a million and one half volts. The author reports from a total of a little over two hundred cases in a period of two years. Together with his electrical treatment he also pays special attention to the hygienic and dietary treatment; good fresh air, pure food of nutritious kind, passive exercise, salt and oil baths, are advisable. Since June 1, 1905, the doctor has one hundred and seventeen cases recorded, with thirty-eight absolute recoveries, that is, no tubercle bacilli found in sputum; seventeen patients were improved. None of his patients were in the incipient stage when admitted, the shortest time any patient had been affected being one year. The gas which he used with the high frequency current is generated from a mixture of gum camphor and iodine, each three ounces; turpentine, six ounces; and sulphuric acid, one drachm. This mixture is called a powerful germicide, with a special affinity for the tubercle bacilli. The author bases his treatment upon the following facts: Tuberculosis is of bacterial origin, the readiness with which the cells lodge and multiply varies greatly. The cause of the difference in individual susceptibility has an important bearing upon the treatment. In a state of health Nature seems to furnish in nonsusceptible cases protective proteids, found in the blood plasma called alexins. Besides these, we find the blood plasma holding oxygen in solution and the hæmoglobin which by actual weight makes 90 per cent. of the dried corpuscles entering into partial combination with oxygen. This affords, together with the phagocytosis taking place upon an invasion of bacteria, all the protection required. In susceptible cases we find the phagocyte unable to cope with its enemy, the bacillus, and after absorption digestion fails to take place. The germs multiplying within the phagocyte, and by overcrowding produce its destruction, thus indicating that in nonsusceptible cases the bacilli are destroyed so far as multiplication is concerned before being absorbed by the phagocyte. This leads to the discussion of the question of the introduction of a substance into the blood plasma having a special affinity for the tubercle bacilli, taking the place of the alexins where they are wanting, thus giving Nature a chance through phagocytosis to eradicate the disease. The wandering leucocytes flow from the adjacent cells which constitute the bulk of the tubercle, the reticulum of connective tissue is formed by the fibrillation of the protoplasm of cells and the rarefaction of the resulting matrix, thus making an impenetrable wall beyond which no circulation takes place. If by any means this passage could be cleared and this wall cut down the great obstacles to our success would be overcome. It is on this account that he first attempted through the medium of high frequency currents to effect a penetration of this wall.

4. Fresh Air Homes and Medical Work in Connection with Them.—Williams reviews the statistics collected from the fresh air homes of New York city, and says that any contagious case or one in which there has been exposure to contagion should not be sent to the fresh air homes; also cases of pulmonary tuberculosis and cases that need hospital care rather than that of a convalescent home. Also, young infants, so called feeders, unless there is a resident physician who is competent to care for such cases, and unless one is reasonably sure that such babies will not die *en route*, or immediately after arrival, for they are so often

sent to the seashore, like a dying consumptive to the mountain, as a last chance, should not be sent.

BRITISH MEDICAL JOURNAL

May 26, 1906.

1. Illustrations of Very Early Conditions of Cancer of the Tongue, By H. T. BUTLIN.
2. Clinical Remarks on the Early Recognition of Cancer of the Breast, By G. L. CHEATLE.
3. Illustrations of Propagated Cancer, By E. F. BASHFORD.
4. The Radical Operation for Cancer of the Lower Lip, By J. HUTCHINSON, JR.
5. A Clinical Lecture on Secondary (Metastatic) Carcinoma of the Ovaries, By J. BLAND-SUTTON.
6. The Surgery of Sarcoma in Kashmir, By A. NEVE.
7. The Color of the Hair in Ovarian Dermoids, By S. G. SHATTOCK.

1, 2, and 4. Cancer.—Butlin draws attention to the diagnosis of very early malignant disease of the tongue, so early and so insignificant that he has only learned within the last two years to recognize it himself. Formerly he divided the large majority of cases of cancer of the tongue into three stages of development: 1. Predisposing conditions, such as leucoplakia, ichthyosis, chronic superficial glossitis, etc. 2. Precancerous conditions such as warty growths, thick plaques, sore places, etc., which are not actually cancerous, but will inevitably proceed to cancer unless removed or destroyed. 3. Actual cancer in one of its various forms. But within the last two years he has met with seven cases of supposed precancerous conditions of the tongue, which on microscopical examination proved to be cancerous. In these seven cases the disease appeared in four forms as follows: 1. A flat, very slightly raised, smooth, red glazed plaque, feeling like a thin piece of gristle in the surface of the tongue. 2. A white warty growth, not ulcerated, and scarcely indurated at its base. 3. A slight thickening and hardening of an old leucoplakic area, rather distinguishable to feel than sight, very like an earlier stage of number 1. 4. A nodular plaque, red and commencing to ulcerate, with drawing in of the surrounding tissues. Cheatle, in his article, demonstrates: 1. How to examine a breast case of suspected cancer, and at the same time to point out how the examination must lead to the certainty of malignant disease in some cases, and to uncertainty in others. 2. The management of cases in which examination leaves the positive diagnosis of a small cancer uncertain. Examination. The best position for the patient is flat on the back and on a fairly high table. Both breasts must be well exposed. A. Palpation. The breast tissue must not be picked up, but must be palpated by the finger tips, both breasts being gently rolled over the underlying thorax. Any swelling, nodule, or irregularity will be at once felt, and it can also be determined whether the breast complained of be the only one affected, and whether there is more than one lesion in it. Should multiple swellings be found in both breasts the case is probably one of chronic mastitis or cystic changes. The same is true, with certain exceptions, of multiple swellings in one breast only. But a single nodule, whether in one breast or two, is probably a tumor, and may or may not be cancerous. B. Retraction of the skin. This is best tested by pushing the breast towards that portion of the skin to be tested. If present, the slightest retraction of the skin covering the suspected swelling can be noted and must be caused by the pull on it of the underlying tumor, since the wrinkle in the skin at that spot could not be caused by the fingers which are too far away. C. Flattening of part or the whole of a normal curve of the breast. When the above three signs are associated the case should be looked upon as one of cancer. Further signs are: D. Examination of lymphatic glands in the axillary and supraclavicular region. E. Retraction of the nipple and hæmorrhage from the nipple. It occurs early

in cancer only when the disease begins under or near the nipple, and its absence does not affect the diagnosis. The clinical picture of a doubtful case is as follows: There is a small, possibly breast swelling, and its immediate neighborhood may be surrounded by some irregularity in one breast only, or there may exist in only one breast one possibly painful or tender area of irregularity. There is no retraction of the skin over the suspicious area, nor is there discernible any flattened interruption of the curve over it, and the rest of the same breast and of the opposite breast are normal on palpation, and all other clinical signs are absent. All that can be said clinically is that being so isolated it is probably a tumor, but whether it is malignant or not cannot be told. It may be due to inflammation or to recent trauma. In every such case a portion of the suspected tissue should be removed for direct macroscopical and microscopical examination. Hutchinson describes the complete radical operation for cancer of the lower lip. It cannot be done satisfactorily under an hour, and therefore is a contrast to the time honored method of V incision, which was almost dramatic in its rapidity and was frequently performed without an anæsthetic. In no other region of the body is it so easy to remove all the lymphatic glands, in which recurrence of cancer is likely to take place. The radical operation should include both submaxillary regions whenever the primary epithelioma is at or near the middle line of the lip. If the growth is placed close to one angle of the mouth the neck operation may be safely limited to that side, including the submental glands and those over the upper end of the carotid artery and jugular vein.

LANCET.

May 26, 1906.

1. How the Fight Against Tuberculosis Now Stands (*Nobel Lecture*), By R. KOCH.
2. The Preservation of Health Amongst the Personnel of the Japanese Navy and Army (*Lecture II*), By Baron TAKAKI.
3. Autointoxication: Its Relation to Certain Disturbances of Blood Pressure (*Goulstonian Lectures, III*), By H. B. SHAW.
4. Hæmatoma of the Ovaries and Certain Other Closely Allied Conditions, By H. W. WILSON.
5. Hæmorrhagic Purpura During Convalescence from Scarlet Fever, By A. G. BANKS.
6. The Immediate Treatment of Extensive Wounds on Field Service, By C. A. GILL.

1. Tuberculosis.—Koch first recapitulates the essential facts regarding infection in tuberculosis as follows: Only tubercle bacilli emanating from human beings needs be taken into account in fighting tuberculosis; the bacilli of bovine tuberculosis are harmless to man. Only those tuberculous patients who suffer from laryngeal or pulmonary tuberculosis and whose sputum contains bacilli are dangerous to those about them to a noteworthy degree. This form of tuberculosis is called *open* in contrast to the *closed* form in which no bacilli are given off to those around, and which is quite harmless. Even those who suffer from open tuberculosis are harmless, as long as the tubercle bacilli expelled by them are prevented by cleanliness, airing, etc., from infecting. The patient becomes dangerous only when he is personally uncleanly or becomes so helpless in consequence of the far advanced disease that he can no longer see to the suitable removal of the sputa. For the healthy the danger of infection increases with the impossibility of avoiding the immediate neighborhood of a dangerous patient—i. e., in densely inhabited rooms, especially if the latter be badly ventilated and inadequately lighted. The various measures for the prevention of the disease may be rated as follows: 1. Notification. Obligatory notification can only be enforced by establishing laboratories where sputum is examined gratis. 2. The placing of advanced cases of

pulmonary tuberculosis in suitable establishments. Such cases must not be allowed to die in their homes, where they are helpless and inadequately nursed. 3. The admission of first stage patients into sanatoria where they may be cured; but the duration of treatment must be far longer than is at present the practice. Real cures are all too few. 4. The establishment of tuberculosis dispensaries or care stations, the chief objects of which are the furnishing of food and assistance—not medicine. Of the utmost importance are all efforts to instruct the people as to the danger of tuberculosis, and to keep awake the interest of the masses in the fight against the disease.

3. Autointoxication.—Shaw, in his concluding Goulstonian lecture, sums up his conclusions as follows: Autointoxication by the tissues of various organs or by derivatives of these tissues is very probable. Clinically there is a group of cases in which the kidney has undergone reduction in size, such reduction affecting chiefly the cortex; in many of the cases the blood pressure is raised and certain signs and symptoms spoken of as uræmia are present. The kidney substance, especially the cortex, when fresh can cause a rise of blood pressure. The actual substance responsible for this effect has not been isolated. It is not a crystalline body, but is of a colloid nature and cannot be dialysed. It is very labile and appears to be destroyed when the kidney substance has lost its freshness. Clinical and experimental observations therefore support the view that maintained hypertension may be due to the entrance of kidney substance into the circulation. Since raised blood pressure occurs so often in uræmia, the latter may also be due in part to the entrance into the system of toxic material derived from the kidney. That the cerebral manifestations of uræmia are due to arterial spasm may be accepted in view of the fact that the toxic substance derived from the kidney acts upon the peripheral centres of the vasomotor nerves, and the cerebral arteries possess a nervous supply. The press or effect of the kidney substance may be lost when the organ has undergone autolysis. Now autolysis is an accepted physiological agency by which the chemical changes of the body are carried on. Experiment shows that when tissues are cut off from the circulation autolysis takes place. If, then, the blood supply to various organs be cut off by arterial disease, after a certain period of time the organs atrophy by a process of autolysis. Autolysis is a process allied to digestion and is due to the existence of intracellular proteolytic enzymes. No derivative of autolysis is known which is capable of causing a rise of blood pressure. Therefore kidney substance can alone be the cause of the rise of blood pressure met with in renal disease; it must enter the circulation before autolysis has occurred during the period of maintained vitality. All organs which have undergone the initial process of autolysis may yield such substances as proteoses, histones, nucleinic acid, and choline. In this stage they can yield to the circulation material which is capable of exerting a fall in the blood pressure. If autolysis proceeds further the derivatives are quite without effect. The action of kidney substance when once it has reached the circulation and produced a rise in pressure explains the common occurrence of hypertrophy of the middle coat of the arteries and of the heart.

4. Hæmatoma of the Ovary.—Wilson's paper is based upon a series of eight cases of hæmatoma of the ovary and allied conditions. He divides hæmatomata of the ovary as follows: 1. Idiopathic. 2. Those due to torsion of the pedicle of the ovary causing obstruction to the venous return; caused by (a) hernia of the ovary, (b) rotation of a slightly enlarged ovary causing twisting of the broad ligament, and (c) the presence of some abnormal predisposing condition in the

pelvis. 3. Toxic conditions causing punctiform or more extensive hæmorrhages; (a) some of the acute specific fevers, as scarlet or typhoid fever; (b) profound septic intoxication, as general peritonitis or puerperal sepsis. 4. Ovarian pregnancy. Ovarian hæmatomata occur in young patients whose pelvic organs are at the height of their functional activity and whose tissues are exceedingly well nourished. They are almost impossible to diagnosticate with any certainty. The two cardinal symptoms are abdominal pain and uterine hæmorrhage. There are usually vomiting and collapse, the shock being disproportionately severe. The abdomen is rigid and tender. The mild cases are mistaken for cold or inflammation; the severe ones for ruptured gastric or duodenal ulcer, appendicitis, or even ruptured ectopic pregnancy.

LE BULLETIN MEDICAL.

May 17, 1906.

The Clinical Indications and the Social Rôle of Popular Sanatoria According to the Results Obtained During Five Years at the Sanatorium d'Angicourt.

By M. C. KUSS.

Popular Sanatoria.—Kuss deals with the question of sanatoria for tubercular patients, and discusses the immediate results obtained in the different stages of the disease, the remote results, and the social classes from which the patients at the sanatorium d'Angicourt were drawn. His conclusions are that convalescents need support, medical direction and moral protection, to secure which he suggests the establishment of a bureau.

LA PRESSE MEDICALE.

April 25, 1906.

1. Retention of Urea,

By G. PAISSEAU.

2. Antimeningococcic Serum,

By R. ROMME.

1. Retention of Urea.—Paisseau summarizes a number of articles on this subject which have been published in various journals during the present year by Ch. Achard and himself with some reference to the work of Widal and Javal. He claims that a starchy diet, very poor in nitrogen, will produce in certain cases phenomena which resemble those caused by dechloruration, while a nitrogenous diet lessens the retention of urea, and tends to produce a discharge of this substance from the organism.

May 12, 1906.

1. Dorsal Scoliosis,

By P. DESFOSSES.

2. Acute Oedematous Macroglossitis,

By J. SABRAZES, J. BONNES, and PARSAT.

1. Dorsal Scoliosis.—Desfosses presents a beautifully illustrated description of the skeleton in this disease.

2. Acute Oedematous Macroglossitis.—Sabrazes, Bonnes, and Parsat report an interesting case of this nature which occurred during the course of an attack of scarlet fever in a man, thirty-five years old. It was ascribed to a streptococcic invasion of the tongue by way of the lingual tonsil, although serum aspirated from within the organ proved sterile. After the lapse of a few days the tongue returned to its ordinary proportions. The patient had a similar attack a year later.

LA SEMAINE MEDICALE.

May 16, 1906.

The Galloping Sound of Hypertrophy of the Left Side of the Heart; Its Mechanism and Clinical Signification, By Professor L. BARD.

The Galloping Sound Heard in Hypertrophy of the Left Side of the Heart.—Bard claims that the conditions which give rise to the *bruit de galop* are those which either by increase of the aortic resistance, or by enfeeblement of the contractile power of the myocardium, or by a combination of the two, lengthen the duration of the protosystole and augment the effort demanded of the ventricle.

MUENCHENER MEDIZINISCHE WOCHENSCHRIFT.

May 15, 1906.

1. A New Operation for the Removal of Malignant Tumors of the Nose. By ALFRED DENKER.
2. Contribution to the Question of the Sporadic Occurrence of Cerebrospinal Meningitis. By KÜSTER.
3. The Prevention of Gonorrhœal Ophthalmia by Means of Sophol. By OTTO VON HERFF.
4. Treatment of Flatfoot. By GEORG HOHMANN.
5. Analgesia of the Tendo Achillis in Tabes. By RACINE.
6. Why are Paralyzes of the Nervus Peroneus More Frequent than those of the Nervus Tibialis? By Egon HARTUNG.
7. Some Contributions to the Clinical Symptoms of Abdominal Arteriosclerosis. By J. ROSENGART.
8. Anæsthetization with the Roth-Draeger Oxygen Apparatus. By WILHELM HAGEN.
9. Symmetric Lipomata of the Back of the Hand in a Negro. By MAX MARTIN.
10. A Tumor of the Left Side of the Face Springing from the Roof of the Fauces. By KARL JÄGER.
11. Recollections of Karl Keim. By BOECK.
12. History of the Theory and Practice of Medicine in Berlin. By ERWIN FRANCK.
13. Christmas Time in Florida (Continued). By CARL BECK.

1. **New Operation for Malignant Tumors of the Nose.**—Denker enters the antrum of Highmore through an incision above the gums with resection of its facial wall after the soft parts have been retracted, removes its lateral nasal wall with chisel and forceps, and through the opening thus formed removes the tumor. He reports three cases in which he has performed this operation, and claims that it lays bare the origin and extent of the tumor in a very desirable manner, that the skin is not injured, and therefore no disfigurement of the face is produced, and that the flow of blood down the posterior nares, and therefore the danger of pneumonia from the entrance of blood into the lower air passages is less than when the operation is performed in accordance with other methods.

2. **The Sporadic Occurrence of Cerebrospinal Meningitis.**—Küster reports several sporadic cases of cerebrospinal meningitis in which the presence of the meningococcus intracellularis of Weichselbaum was demonstrated, and he believes from the frequent sporadic occurrence of this disease that it should be called contagious rather than epidemic.

3. **Sophol.**—Von Herff claims that an albuminate of silver, known as sophol, is less irritating than protargol, is equally as toxic to staphylococci and bacilli pyocyanei as protargol and much more so than argyrol, and that it is a preparation which may take the place efficiently of silver nitrate in the prevention of ophthalmia neonatorum.

4. **Treatment of Flatfoot.**—Hohmann deals first with the replacement of the foot under general anæsthesia and its retention in its proper position by means of plaster of Paris, and then discusses the application of an apparatus made of cork and steel wire.

5. **Analgesia of the Tendo Achillis in Tabes.**—Racine has made an investigation of the prevalence of analgesia of the tendo Achillis in tabes, a symptom which has been described as characteristic of that disease by Abadie, and is satisfied that it does not hold any such rank as a characteristic symptom, as that held by loss of the knee jerk, or by the reflex rigidity of the pupil.

6. **Why Are Paralyzes of the Peroneus More Frequent Than Those of the Tibialis?**—Hartung's explanation is that on account of its relatively more superficial position the peroneus is more liable to disease and injury than the tibialis.

10. **Tumor of the Left Side of the Face.**—Jäger reports the case of a boy, nineteen years old, who came under his observation with a tumor, which appeared to be a soft, vascular sarcoma which had sprung from the periosteum of the sphenoid bone and invaded to

distention the cavities of the orbit, nose, and fauces. The relative benignity of the tumor was remarkable. It had taken nine years to develop, there was little metastasis and no tendency to sloughing. The entire side of the face was enormously swollen by the tumor, a great mass of which protruded from the orbit and cheek.

ZENTRALBLATT FUER GYNAEKOLOGIE.

May 10, 1906.

1. Locomotor Ataxia and Pregnancy. By J. THIES.
2. A New Operation for the Formation of an Artificial Vagina. By J. J. FEDOROW.
1. **Pregnancy and Locomotor Ataxia.**—Thies reports the case of a woman who gave a typical history of syphilitic infection. In her eighth pregnancy she showed symptoms of locomotor ataxia, and gave birth to her child without feeling any pain whatever. Various disturbances on the part of the bladder and rectum were noted which added to the difficulties of the confinement. In his epicrisis, the author notes the fact that pregnancy does not seem to influence tabes for the worse.
2. **Artificial Vagina.**—Fedorow's suggestion is a modification of Snegirew's procedure by which the anterior wall of the rectum is used in part to produce a mucous lining for the newly formed vagina. The lengthy details must be consulted in the original.

ZENTRALBLATT FUER INNERE MEDIZIN

May 10, 1906.

1. Recurrent Aphthous Stomatitis. By SCHILLING.
1. **Recurrent Aphthous Stomatitis.**—Schilling records a stubborn case of aphthous stomatitis. The patient had consulted him for gastric disorder to which he attributed the factor. A careful examination showed that the artificial teeth which he wore were uneven and did not fit perfectly and had injured the gums. The trauma had offered the entrance portal to the germs which fairly swarmed in the mouth and on the gums. A cure was effected by mouth washes of peroxide of hydrogen, and by placing the teeth at night in a formalin solution.

GAZZETTA DEGLI OSPEDALI E DELLE CLINICHE.

May 13, 1906.

1. A Case of Sacculated Aneurysm of the Hepatic Artery. By SPIRO LIVIERATO.
2. Cellular Parasites in Syphilis. By IVO BANDI and FRANCESCO SIMONELLI.
3. Contribution to the Leucotherapy of Peritoneal Infections. By S. DIEZ and G. CAPORA.
4. Contribution to the Pathology of Suppurative Cervical Adenitis of Early Infancy. By GIUSEPPE CONFORTI and TOTO BORDONI.
5. The Selection of Anæsthetics. By NICOLINO FEDERICI.
1. **Aneurysm of the Hepatic Artery.**—Livierato reports a case of sacculated aneurysm of the hepatic artery in a young man, twenty-eight years of age, who had died of bronchopneumonia. The aneurysm was found at autopsy. In commenting on this case the author endorses the infectious theory of arterial inflammation, and attributes the formation of this aneurysm to the pneumonic infection which the patient had suffered some time before his last illness set in. The patient had also been addicted to alcohol, however, and this may have contributed to the cause of the aneurysm.

2. **Intracellular Spirochæta in Syphilis.**—Bandi and Simonelli, in a previous article, described their discovery of masses of the *Spirochæta pallida* of Schaudinn and Hoffmann in the cells of certain syphilitic lesions, whose surfaces they had scraped for the purpose of examination. Levaditi believes that these masses of spiral organisms represent a process of agglutination, but the present authors show that agglutination could not have taken place within the cells, and insist that

these masses of spirochæta are nothing but transitional stages of the organism as found free in the secretions. Nor do Bandi and Simonelli believe that the cells engulfed these germs in the course of phagocytosis, for the germs are unaltered except to a very slight extent, when found within the cells. The Italian authors, on the contrary, believe that the germ of syphilis lives in syphilitic tissues at the expense of said tissues and is thus a true parasite.

4. Suppurative Cervical Glands in Children.—Conforti and Bordoni conclude as follows as regards the suppurative processes found so frequently in the cervical glands of young children: Infections of the cervical glands affect in preference children of the delicate type, although those of the robust type are not spared altogether. The most frequent source of these infections are lesions of the hairy scalp or of the face, but more especially of the mouth and throat. Usually these infections are subacute in character, rarely they are acute. In most acute cases the streptococcus is at fault; in a smaller proportion the staphylococcus pyogenes aureus or albus. This corresponds to the results of experimental infections on animals. In the subacute cases, however, the staphylococcus aureus is the most frequent germ, the remaining germs occurring in the following order of frequency: The streptococcus, the staphylococcus albus, and the aureus combined with the albus.

5. Choice of Anæsthetics.—Federici insists that chloroform after all is the safest anæsthetic, at least for the country practitioner with limited means and equipment. He reports a case of eclampsia in which chloroform was given in considerable doses without any evil effects.

RIFORMA MEDICA.

May 5, 1906.

1. Cancer of the Stomach in Surgery, By I. TANSINI.
2. The Mode of Action of Maretin, By ALFONSO CALABRESE.

3. Embolism of the Pulmonary Artery in Typhoid Fever, By ROBERTO MASALONGO.

3. Pulmonary Embolism in Typhoid Fever.—According to Masalongo pulmonary embolism is not such a rare complication of typhoid infection as might be supposed. In many cases sudden death is due to this factor, although this may not be suspected, as no autopsy can be performed. Even at autopsy in many of these cases paralysis of the heart is thought of as clots are found within the right ventricle. An important point is that embolism of the pulmonary artery may occur in typhoid fever without the presence of any peripheral endophlebitis that can be detected during life. In all cases of sudden death in typhoid fever, in which there was not peritonitis or perforation, we should look for the possibility of an embolism of the pulmonary artery. In two cases reported by the author there was an infectious phlebitis of the hypogastric vein, which caused the embolism in the pulmonary. These peripheral veins should be carefully examined at autopsy in such cases.

ROUSSKY VRATCH.

April 22, 1906.

1. Scarlatinal Vaccine and the Specific Nature of Scarlet Fever, By G. N. GABRITCHEVSKI.
2. Lumbar Puncture in Epidemic Cerebrospinal Meningitis, By I. E. HAGEN-THORNE.
3. On Acute Leucæmia, By S. M. POGGENPOLL.
4. New Method of Detecting Blood in the Urine, By I. A. KLIMOFF.
5. The Pigments of Red Cabbage and of "Tangerine" Oranges as Indicators, By V. A. ARNOLDOFF.

1. Scarlatinal Vaccine.—Gabritchevski, while acknowledging that the specific character of the streptococcus in scarlet fever has not yet been positively proved, thinks that the negative proofs which have

thus far been adduced are not sufficient to permit a denial of specificity. Gabritchevski's own investigations dates from 1904, when he utilized a disease very similar to scarlet fever in horses and caused by a streptococcus. This affection is characterized by fever, catarrhal symptoms in the nose and throat, and swelling of the glands of the neck. The kidneys, the joints, etc., are frequently affected as in scarlatina. The disease is much more prevalent in young horses than in older animals, and terminates in desquamation. Bouillon cultures of the streptococcus from these horses concentrated to one tenth their volume and rendered lifeless by the addition of carbolic acid (0.5 per cent.) served as a vaccine. Young colts could be immunized by means of three injections of this vaccine against the disease. Gabritchevski's scarlatinal vaccine, which he tested first upon himself and then upon other persons, is prepared from cultures of streptococci found in patients with scarlet fever. The bouillon culture is concentrated, heated to 60° C., and rendered lifeless by the addition of one half per cent. carbolic acid. Each cubic centimetre contains 0.005 gramme of the dry bacterial residue. This vaccine was injected in seven hundred children under ten years of age, the dose being one half c.c. to begin with. The dose was repeated twice or three times at intervals of seven days, the subsequent doses being increased up to one c.c., according to the reaction. A temperature above 39° C. or over was avoided. The serum was not used in the presence of fever. It was found that the vaccine prevents the development of scarlet fever in exposed children. Furthermore, the vaccine produces in about thirteen per cent. of cases a rash resembling that of true scarlet fever, but without subsequent desquamation. In some cases the vaccine also produces throat symptoms and swelling of the glands. If the streptococcus is really the specific germ of scarlet fever a marked lowering of mortality and morbidity may be expected in the inoculated children. If the streptococcus on the other hand is merely a complicating germ then the severity of the disease will be at least diminished by the inoculations.

4. Blood in the Urine. A New Test.—Klimoff regards the usual tests for blood in the urine as inaccurate, and recommends the reaction described by Klunge in 1883, known as the aloin tests, and gives the following modification of Klunge's test for the urine: To the suspected urine in a test tube an equal amount of old turpentine is added and to this a small amount of aloin in powder is mixed. The mixture should be then gently heated and the presence of blood is evidenced by a bright purple color. If no blood is present, the urine remains yellow. Hydrogen peroxide is still better than turpentine, as sometimes turpentine does not contain a sufficient amount of ozone. There is but one limitation to this test, namely, the urine must be acid, for an alkaline urine gives a positive reaction with this test whether or not there is blood in it. In order to differentiate the bloody from the nonbloody urine in these conditions it is necessary to add a little acetic acid to the purple mixture. If the urine had been alkaline, but had not contained any blood, the acid will cause the purple color to give way to a yellow tint, while if blood was present, though the urine was alkaline, the addition of acid will not change the purple color. Urine of jaundice also gives the positive aloin reaction independently of the presence of blood. The test is simple, sensitive, and trustworthy.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

May, 1906.

1. The Clinical Significance of Urinary Nitrogen, By J. EWING and C. G. L. WOLF.
2. The Diagnostic Significance of Persistent High Arterial Pressure, By T. C. JANEWAY.

3. A Preliminary Study of the Visceral Arteriosclerosis,
By H. BROOKS.
4. Studies in Tropical Medicine. The Chigger in South-
west Africa, By F. C. WELLMAN.
5. Fœtal Ichthyosis. Report of a Case with Pathological
Changes in the Thyreoid Gland,
By B. W. MOORE and Q. M. WARFIELD.
6. The Anatomy of the Parathyreoid Glands,
By J. ROGERS and J. S. FERGUSON.
7. Four Cases of Double Hæmiplegia (Syphilitic En-
cephalitis, Cerebrospinal Syphilis), with Autopsy,
By J. W. RHEIN.
8. On Autosuggestion in Hysteria, Apropos of a Case,
with Remarks on So Called Hysterical Insanities,
By A. GOIDON.
9. Observations Upon the Form of the Red Blood Cor-
puscle in Man, By H. E. RADASCH.
10. Developmental Alexia (Congenital Word Blindness),
By E. JACKSON.
11. Clinical Observations on Ulcer of the Stomach,
By J. H. SCHROEDER.
12. Acute Appendicitis, the Result of a Foreign Body. Re-
view of the Literature, with Report of a Case,
By F. D. PATTERSON.
13. The Surgical Treatment of Hepatic Ascites,
By A. O'MALLEY.
14. Report of a Case of Paratyphoid Fever,
By J. M. SWAN.

1. **Significance of the Urinary Nitrogen.**—Ewing and Wolf propose the following questions: 1. Are there sufficient data concerning the composition of normal urine? 2. Does change in the nitrogen from the normal indicate important disturbance in metabolism? 3. Can we judge of the degree of disturbance from the quantitative changes in the urine? 4. Do age, pregnancy, insufficient food, etc., so affect the findings that other standards must be employed as normal? In answer to the first question the interpretations by pathological must be uncertain until the standards of all types of normal urine are determined. Second, the urine of very sick hospital patients rarely conforms to normal standards. In subjects who are in good health there is conformation to the standards. Third, quantitative relationship between variation from the standard and the degree of metabolic disturbance is quite possible. Fourth, in the conditions mentioned the standards for normal must be modified in each case. In general, changes in the partition of the urinary nitrogen are an index of metabolic disturbance escaping other methods of detection.

2. **Persistent High Arterial Pressure.**—Janeway seeks to impress upon the mind of his readers the physiological picture of chronic arterial hypertension as a type of cardiovascular disease, usually secondary to chronic Bright's, but at times unassociated with it. Many dangers arise from this hypertension whether the patient have nephritis or not. For example, there is danger of cerebral hæmorrhage, or of gradually developing ventricular asystole. The determination of blood pressure by the fingers as compared with an instrument of precision is much the more accurate by the latter means. The difficulty of appreciating other conditions associated with high blood pressure such as hypertrophy of the left ventricle and accentuation of the aortic second sound are referred to as also very difficult of detection, all of which lends an element of uncertainty to the diagnosis of conditions in which high arterial pressure is a conspicuous symptom.

3. **Visceral Arteriosclerosis.**—Brooks includes in his study 400 cases in which there was a lack of proper functional relationship between the arteries and dependent tissues. As to occupation, work in lead and severe manual labor were marked factors. Alcohol, nephritis, syphilis, and tuberculosis were conspicuous causes. As to sex, 275 were men. The average age was forty-five. In 338 cases more than a single viscus was invaded. Coronary sclerosis was present in 270 cases, next in frequency were the arteries of the brain,

kidneys, pancreas, liver, and spleen. The first effect appears in the parenchymatous tissue supplied by the vessels in the form of atrophy and fatty infiltration or degeneration. This is followed by interstitial sclerosis. The symptoms are depressed function, pain, and sometimes increased blood pressure.

7. **Double Hæmiplegia.**—Rhein reached the following conclusions: 1. In brain syphilis small microscopical foci of softening may occur in the cortex, the probable result of cutting off the blood supply, giving rise to hemiplegic symptoms and mental disturbances. 2. Syphilitic inflammatory encephalitis, while described with comparative rarity, is probably due to inflammation originating in the small vessels of the cortex by the syphilitic poison circulating in them. 3. The change in the bloodvessels is not always uniform. Sometimes the adventitia is the more involved, and sometimes the intima. 4. Double hæmiplegia has rarely been described and is probably uncommon.

9. **Form of the Red Blood Corpuscle in Man.**—Radach concludes as follows: 1. The majority, if not all of the circulating cells, are bell shaped and not biconcave. Their presence in the adult body as well as in that of the fœtus is shown by a study of the placenta. 2. Their presence in the fœtus and infant seems undoubted, as shown by their abundance and uniformity in shape and size in the fixed tissues. 3. Upon contact with the air the bell shape is changed to the biconcave, as the result of collapse. This is shown by the fixation of blood that has not been exposed to the air, on the one hand, and blood that has been so exposed, on the other.

10. **Developmental Alexia.**—Jackson calls this condition a failure of development, or a delayed development of a group of coordinations, or a coordinating centre essential to the recognition of written or printed characters. In the cases which have been reported the vision has been normal and the eyes healthy. The hyperopia, in some of the cases, is a difficulty to be overcome before the child could read, but its influence is of minor importance. There is manifestly a defect of brain development, a defective memory for the visual impressions of letters and words. But in other cases spoken language is acquired before the effort to understand and employ its written symbols is commenced. The explanation of such cases is the failure of the coordinations required for the comprehension and use of language to connect with the visual impressions at any point. In any case the child must have special instruction and not be subjected to discouragement arising from failure or from the ridicule of companions.

11. **Ulcer of the Stomach.**—Schroeder describes the measures for feeding patients with these lesions and for controlling hæmorrhage. He thinks it is impossible to determine clinically when an anatomical cure has resulted. One may assume that ulcers are cured if a patient remains free from symptoms for months. After a cure one of three conditions may be expected: 1. There may be permanent relief from symptoms. 2. There may be cicatricial contraction with stenosis and deformity. 3. There may be recurrence of the ulcers with or without cicatricial obstruction. Surgical treatment is indicated when there is organic obstruction by cicatrices or adhesions, or when there are frequent hæmorrhages. Operative treatment may consist of gastroenterostomy, excision of the ulcer, or plastic operations upon the pylorus.

13. **The Surgical Treatment of Hepatic Ascites.**—O'Malley describes Schrassi's method of fixing the omentum and spleen to the abdominal wall in this condition: 1. Two incisions on the left side at right angles to each other down to the peritonæum. 2. An opening in the peritonæum to let out the ascitic fluid. 3. Dissection of the flap of skin and muscles, the apex of the flap being the angle of the incisions, and the base a line

extending to the navel. The peritoneal opening is enlarged and the omentum is brought forward, its border touching the base of the flap, and sutured to the peritonæum at the lips of the wound. 4. The omentum is rubbed with gauze moistened with 1 to 1,000 bichloride, spread along the band peritonæum and sutured to it. 5. The spleen is exposed, and a piece of gauze introduced above it and another below it. 6. The spleen is sutured to the abdominal parietes and to the flap which is now restored to its proper position. 7. The abdominal wound is sutured.

ANNALS OF SURGERY.

April, 1906.

1. The Value of the Differential Leucocyte Count in Acute Surgical Diseases, By C. L. GIBSON.
2. Fibrolipoma of Jaw and Neck, By L. W. ROSE.
3. Discussion of the Pleura in the Treatment of Chronic Empyema, By J. RANSOHOFF.
4. The Movements of the Stomach and Intestines in Some Surgical Conditions, By W. B. CANNON and F. T. MURPHY.
5. The Technique of Gastrojejunostomy, By W. J. MAYO.
6. The Relative Value of Cæcostomy and Appendicostomy in the Treatment of Amœbic Dysentery by Irrigation of the Colon, By H. C. CURL.
7. The Use of Silver Wire for the Cure of Large Herniæ, By J. WIENER, JR.
8. Primary Tumors of the Urinary Bladder, By L. DAVIS.
9. Ischemic Muscular Atrophy. Contractures and Paralysis, By A. H. FERGUSON.

1. **The Value of the Differential Leucocyte Count in Acute Surgical Diseases.**—Gibson thinks the differential blood count and its relation to the total leucocytosis is the most valuable diagnostic and prognostic aid in acute surgical diseases that is furnished by any of the methods of blood examination. It shows supuration or gangrene when there is a great increase of the polynuclear cells compared to the total leucocytosis. When the disproportion is extreme this method is practically infallible. The disproportion between leucocytosis and the percentage of polynuclear cells is much more important as a determining factor than a leucocyte count alone. If there is no relative increase, or if there is decrease in the proportion of polynuclear cells, it usually indicates absence of severe inflammation. The method in question has been found valuable in interpreting the severity of the lesions of appendicitis and their sequels. A chart is recommended by the author to measure the disproportion of polynuclear percentage.

5. **The Technique of Gastrojejunostomy.**—Mayo advises that in benign disease the abdomen be opened about an inch to the right of the median line, through the rectus. The transverse colon is then drawn out with the mesocolon until the jejunum is seen. The latter is then steadily drawn out from a point three or four inches from its origin. This exposes a peritoneal band on the beginning of the jejunum which leads to the vascular arch of the middle colic artery through which the transverse mesocolon is to be torn. Through the opening thus made the posterior wall of the stomach is drawn and the anastomosis is made from a point one inch above the greater curvature on a line with the longitudinal portion of the lesser curvature to the bottom of the stomach two and a half inches to the left. This procedure will necessitate a small opening in the gastrocolic omentum through which one half inch of the anterior gastric wall must be drawn. Doyen clamps hold the posterior gastric wall, the handles lying transversely across the right side. The second two inches of the jejunum are similarly held, and placed beside the stomach segment. An inner row of through and through chromic catgut sutures are then passed, which is followed by an outer row of celluloid linen sutures (No. 1). The rent in the mesocolon is fas-

tened to the suture line with three or four linen mattress sutures.

8. **Tumors of the Urinary Bladder.**—Davis draws the following conclusions: 1. Stone in the bladder is not important in the ætiology of such tumors. 2. The condition of the bladder wall as to epithelial infiltration best determines the benign or malignant character of papillary epithelial tumors of the bladder. 3. Under the foregoing conditions benign papillomata will equal or outnumber the papillary carcinomata. 4. Recurrent epithelial tumors are not necessarily malignant. 5. Benign papillary tumors if untreated may rapidly lead to a fatal issue. 6. Timely surgical treatment of pedunculated papillary tumors gives fair prospect of long immunity, if not of permanent cure. 7. The preferable method of treatment is complete excision of the tumor with a margin of bladder wall, including mucosa, submucosa, and muscularis. This may prevent epithelial infiltration at the base. The wound in the bladder wall should be closed to prevent hæmorrhage.

9. **Ischemic Muscular Atrophy.**—Ferguson considers the changes in muscles from which the blood supply is cut off as due to nearly complete arterial interruption, or interruption of more than two or three hours' duration. It may be due to interrupted venous return from cardiac embolus, thrombus from syphilitic endarteritis, or acute infectious disease, Raynaud's disease, injury to a vessel, cold, or tight splinting. Its symptoms are numbness and tingling, with severe and paroxysmal pain in muscles. The limb may be pale or cyanosed. Electric irritability weak or gone. Muscular rigidity and painful contractures begin after seven hours and disappear after two or three days. Muscular atrophy gradually follows with contractures. A small number of muscular fibres may regenerate. If the blood supply is completely interrupted the changes in the muscle fibres are much more extensive than when it is partly cut off. With interrupted venous return there are acute symptoms of thrombus, but these may pass off, leaving the limb in passive congestion. There is always an increase of connective tissue. The nerve symptoms are of paralytic nature, pain and hyperæsthesia being usually absent, paralysis is more marked than anæsthesia, and trophic changes in the nerves are rare.

THE MEDICAL CHRONICLE.

May, 1906.

1. Angina Pectoris as an Early Symptom in Aneurysm of the Aorta, By W. OSLER.
2. A Note on Vaginal Drainage in Children and Young Adults, By A. W. W. LEA.
3. Notes on the Treatment of Diabetes Mellitus, By R. T. WILLIAMSON.

1. **Angina Pectoris as an Early Symptom in Aneurysm of the Aorta.**—Osler speaks of pain as one of the earliest and most constant symptoms in this disease. It was the first and most severe symptom in about half of the author's cases. It is possible that it should be absent, though there may be dyspnœa, cough, and cyanosis, and though the sac may perforate the chest wall or erode the spine. The most common situation for the pain is in the region of the heart itself, radiating to the neck, shoulder, and back, and down the left arm or both arms. In some cases the abdominal pain is severe. Several distinct varieties of pain may be recognized in this disease: 1. Attacks of true angina, having paroxysms of pain of maximum intensity, with radiation to the arm. 2. Sharp neuralgic pain due to pressure on the nerves, perhaps extending along the course of the nerves, and associated with herpes when the descending thoracic aorta is implicated. It is similar in character to that which is caused by the pressure of pelvic tumors, and by disease of the vertebræ.

and it may be paroxysmal in character. 3. Pain of a dull, boring character which is present when the chest wall or the spine is eroded by the aneurysmal sac. This is the form of aneurysmal pain which is most enduring and most severe. It is due to tension and stretching of fibrous and bony structures rather than to pressure upon nerve cords. 4. Pain referred to the nerves of the arms or the skin in the precordial region or to the pectoral or sternomastoid muscles. One object of the author's paper was to narrate types of cases in which attacks of angina pectoris customarily precede the appearance of the aneurysm for months or years. The paroxysms may not be in the least suggestive of aneurysm, but they are associated with early structural changes in the wall of the aorta. In sclerosis of the aorta pain is not necessarily a symptom, the author having observed this fact in syphilitic patients. With lesions of arteries the pain may be most intense, this being frequently observed in embolism, thrombosis, and the ligation of vessels.

2. **A Note on Vaginal Drainage in Children and Young Adults.**—Lea affirms that vaginal drainage may be used with great advantage in children and young adults, differing with Kelly and others who advise against this channel in such cases, and recommend the rectal route in preference. The author has used vaginal or abdominovaginal drainage in thirteen girls between five and fourteen years. In seven it was for appendicitis, in six for tuberculous peritonitis, all but two of the cases recovering. He thinks it should be used in all cases of acute diffuse peritonitis in children, and in pelvic abscess. The advantages of the vaginal route are its simplicity, the avoidance of danger of infection, and the facility which it gives to irrigation.

3. **Notes on the Treatment of Diabetes Mellitus.**—Williamson thinks that in mild cases good results may be obtained with aspirin with or without restriction of the diet. The aspirin reduces the excretion of sugar. Cacaonut cakes and cacaonut pudding made from the desiccated powder furnish very good substitutes for bread and rice. Of fruits, the author recommends oranges, grape fruit, cranberries, green gooseberries, raspberries, bilberries, blackberries, and red currants. Melons and rhubarb may also be used in moderate quantities. Milk and cream can usually be given with advantage, especially when it is desirable to relax the rigid diet. An artificial milk prepared from clotted cream may be taken freely in all stages of diabetes. Bone marrow is valuable on account of the fats it contains, and may be used in the form of a jelly.

Proceedings of Societies.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of March 1, 1906.

The President, Dr. WILMER KRUSEN, in the chair.

THE TREATMENT OF BACKWARD DISPLACEMENT OF THE UTERUS.

(Concluded from page 1053.)

Dr. GEORGE M. BOYD thought that each operation had a field of usefulness. If it was possible to diagnosticate a case of uncomplicated retrodisplacement, then surely the Alexander operation had a field of usefulness which hardly any one could question; but in the complicated cases he thought an intraabdominal operation would be better. With an increasing experience in obstetrics each year, he felt that physicians should resort to the suspension operation during the childbearing period with great caution, remembering that infection might occur, and the case supposed to be a suspension might become one of fixation and give trouble. Dr. Boyd had

previously reported several very serious complications, one in which the labor was so prolonged that sloughing of the bladder resulted. In another case it was necessary to induce premature labor, and within the last two weeks it had been necessary for him to do Cæsarean section in a case in which fixation had been performed about eight years ago. In this case the anterior wall of the uterus occluded the pelvic canal, and any other operation than Cæsarean section was out of the question. The patient was now doing well. He felt that the operation for the individual case should be selected. He called attention to the importance of not fixing the uterus when it was intended only to suspend it, in view of the complications which were likely to arise during pregnancy.

Dr. JOHN C. DACOSTA did not think that any operation for old chronic retrodisplacement of the uterus was a satisfactory one unless the abdomen was opened. Otherwise, it could not be known what changes had taken place. In the Alexander operation the risk was taken of doing a great deal of damage. He took exception to Dr. Boyd's remarks in regard to the dangers of ventrosuspension. It was a danger he had yet to encounter. In 1895 he had a long talk with Kelly and learned just how to do that operation. Since then he had had no mishaps. He had such a case of infection as Dr. Boyd mentioned two years ago in which he operated, thinking there was little complication. When he opened the abdomen, however, he not only had to break up adhesions, but had to resect the ovary. Ventrosuspension was done, but by some mishap the wound became infected. He was very anxious about the case, but saw the patient in August and found upon examination of the abdomen that the uterus was normally suspended, and this week she gave birth to a very well developed six months' baby.

Dr. DaCosta thought the suspensions operations, so-called, were failures because they were fixations. People thought they must put a great many ligatures through the uterus well into the abdominal wall and use strong ligatures. He used two very fine (not over No. 2) silk sutures, taking up the peritonæum and fascia and only a little bit of the muscle, tying the ligatures in the middle line. He did what he thought was necessary and put one, possibly two, through and through silver sutures back of the uterus to prevent any stripping off of the peritonæum from the abdominal wall. Unless care was taken in this particular, there might be stripping down of the peritonæum and inflammation set up with fixation. He believed that if physicians would do as Kelly did they would find that the operations would be almost universally successful. Ventrosuspension had served him so well for so many years that he did not feel like abandoning it, notwithstanding the arguments brought forward for the other operations.

Dr. DANIEL LONGAKER thought that the treatment of retrodisplacements of the uterus consisted in the treatment of their complications. The results in the days of the Smith-Hodge pessary were probably quite as satisfactory as those of the operations employed today.

Dr. MARIE K. FORMAD stated that at the Woman's Hospital they selected their cases and did a Gilliam, an Alexander, or a ventrosuspension operation, as the case indicated. She had done a number of ventrosuspensions, and had had pregnancy occur with no complications, and the uterus had remained in position. Lately she and Dr. Purnell had been doing the Gilliam operation, and so far as known the patients had done well. They had done the Alexander operation in a number of cases with very good results. She remembered a failure in one case. The rule, however, was to select the operation for the case.

Dr. SARAH H. LOCKREY indorsed Dr. Fomad's remarks, and said that during her service at the Woman's Hospital they had tried all these methods. She had seen no complications from the ventrosuspension operations that had been performed. That was the operation of her choice.

Dr. CHARLES P. NOBLE stated that he was quite eclectic in his practice, that aside from the operation described by Dr. Baldy, he had done all the operations many times, the suspension operation far oftener than any other, and recently he had done the Simpson operation quite often. He had done the Alexander operation about 200 times and had never had any trouble from a defective diagnosis. Trouble was avoided by rejecting the Alexander operation in all cases in which the diagnosis was unsatisfactory, and especially in cases in which there was a history of infection. The operation as he did it was for uncomplicated cases. He therefore thought Dr. Baldy's objection to the Alexander operation purely theoretical. With infection and peritonitis, the cases were not appropriate ones for the Alexander operation. In the case of a virgin, the only possibility of pelvic peritonitis, aside from a mechanical cause, was that she should have tuberculosis, and it was largely on young women that this operation was done. He thought it the ideal operation for uncomplicated cases of retroversion. He had had no trouble with it; the longer he did it, the more he liked it, and the patients were quite satisfied with it. He wished to know why a woman with retroversion without complications should wait for complications before an operation was done for a cure. Every month he saw cases in which that foolish plan had been followed with very bad results. He gave as an example an operation he performed upon a woman less than a year ago, who was a wreck from an originally uncomplicated retroversion which had not been cured. Ovarian complication present when she consulted him made it necessary to open the abdomen and resect one ovary. He did the Simpson operation and the patient had been perfectly well since. If the woman had had an Alexander operation done six or eight years ago, it would not have been necessary to do this recent operation, and she would have been well all these years. Recently he opened an abdomen because the woman had been treated with pessaries and tampons for eight weary years, with the result that both the ovary and uterus were adherent. He believed it was unnecessary that these patients should be temporized with until they had complications instead of being cured in the first place. He had another patient in the hospital now who had suffered for fifteen years from an uncomplicated retroversion. He opened the abdomen because the uterus had become very large and she had much pain. The uterus was of about three times its normal size and there was fibrosis of the ovaries. In his judgment, had she had the Alexander operation fifteen years ago, this condition would not have arisen. In such cases he thought the Alexander operation was ideal.

Dr. Noble agreed with Dr. Baldy that the only way to judge of an operation was to do it. While he had never done the operation, it seemed to him to combine most of the bad points of the different operations. He described it as a round ligament operation which depended upon the poorest part of the round ligament, that which was in the inguinal canal. It is not anatomical, because when the operation was completed the parts were not in the position in which Nature placed them, and it seemed to him the nearer the normal was approached, the better was the surgery. There were other operations that were not ideal that gave good results, and he accepted Dr. Baldy's statements relative to the good results which he got with this operation, even though it was not ideal.

Dr. Noble agreed with Dr. Beyea that suspension was a good operation. He had done it about 500 times. He believed that in from five to ten years less would be said against it than to-day. When he had done it in about 300 cases, he had had 5 per cent. of failures. In 200 Alexander operations he had had a single failure, one half of 1 per cent. In cases in which a comparison could be made there were two objections to the suspension operation not present in the Alexander operation: 1. There was a little more danger in opening the abdomen than in not opening it. 2. There was the possibility of infection which will possibly result in fixation instead of suspension. This happened two or three times in patients from the Johns Hopkins clinics operated on either by Dr. Kelly or by his assistants. In these cases the Cæsarean section became necessary.

He thought the operation described by Dr. Fisher was an excellent one, and he had done it repeatedly. He remarked, however, that it was *sub judice* as yet, and he thought it would be better known five years hence than now.

Dr. BALDY said that he was astonished at Dr. Noble's skill in diagnosing uncomplicated retrodisplacement; further than that, he did not believe that he could always make the diagnosis as he said he could. The matter was one of a difference of opinion, and he believed that every man was often mistaken. To say that uncomplicated retrodisplacement caused catarrhal conditions he thought was rank nonsense; to say that it caused endometritis was worse. As to its causing adhesions, he did not believe it ever did. He and Dr. Noble stood upon entirely different ground in respect to what could occur; therefore, acting in accordance with their convictions, it was not surprising that they should arrive at diametrically opposite conclusions. Dr. Noble said, "Why wait?" Dr. Baldy said, "Why operate on a neurasthenic patient?" He felt that the conclusions drawn from the statistics given in the papers of Dr. Beyea and Dr. Noble differed very much from the practical experience of the men who ran across the cases. Although Dr. Beyea practically never, according to the statistics, had bad results, Dr. Baldy had recently seen a case which he thought was Dr. Beyea's in which there was no relief until he had removed the uterus. This was not a congenital displacement, but had occurred in a multiparous woman. The misleading character of answers to questions was well known, and he thought every man read the returns according to his own desire. He would not believe either of the gentlemen's statistics, and stated that he had seen some of the letters in answer to questions by Dr. Beyea, and the cases were far from cured if the statements in these letters were to be believed. In reply to the criticism of Dr. Noble that the round ligament did not give support and that an operation upon it was a distortion of Nature, he asserted that the Alexander operation was as much a distortion, for it was done on the round ligament, which did not naturally support the uterus. Dr. Baldy objected to the term "natural support" only when it was said that his operation was unnatural and that the others were natural. He declared that all were unnatural, without exception. Dr. Baldy's contention was that the operation which he did accomplished as much as any of the other operations for restoring the uterus to a good position, and, doing so, did no possible harm and was therefore superior. He asserted that there was not one of the operations which lifted the ovary up, provided it was prolapsed of its own accord in addition to the prolapse due to the misplaced uterus. In Dr. Baldy's procedure the prolapse due to the elongated ovarian ligaments was corrected, which was not done in any one of the other methods mentioned.

Dr. Baldy called attention to the possibility of adhesions in operations which he and Dr. Webster were

doing, and exhibited the specimens in a case in which he had removed the uterus six months or a year after he had done an operation. On the anterior surface of the specimen a point was observed where the round ligament had gone through the broad ligament, and on the posterior surface there could be seen the place where it had emerged.

Dr. BEYEA said that the round ligament operations had never appealed to him, for the reasons stated in his paper. The suspension ligament in the specimen shown by Dr. Baldy appeared to him to be rather short and the uterus normal, and the wonder was to him that he had removed such a uterus. He reiterated his belief that ventrosuspension, properly performed, was the easiest and least mutilating operation devised and one which did not cause complications in pregnancy or labor. It had given him excellent results. Recurrence was not present in more than 4 per cent., which he believed was less than that of any well tried round ligament operation. He regarded it as of great importance that a few fibres of the rectus muscle on each side of the incision be included in the silk sutures.

Dr. FISHER said he desired to congratulate Dr. Noble upon his diagnostic ability. He remarked that he had served an apprenticeship in gynecology extending over a good many years, during which period he had come into contact with men of large experience in gynecological work, and he was forced to say that there had been comparatively few cases of retrodisplacement with symptoms in which conditions of some kind were not found that were unsuspected previous to opening the abdomen. From all accounts he was almost forced to admit that there were men who could palpate a kink in a normal ureter and outline other equally attenuated structures in the pelvis, but he likewise knew that every now and then a man of this class made a mistake in diagnosis where he happened to succeed. On the other hand, he at times found that he was in error while other men's opinions were confirmed, and it was not an infrequent occurrence to find an abdominal section reveal abnormalities that were separately diagnosed by different men while each in turn might have failed to recognize that which was diagnosed by any one of his confrères. If, therefore, Dr. Noble's diagnostic ability was of the character intimated, he believed the time had come for many to take a course in gynecology under his instruction. If, as Dr. Baldy had said, it was only the complications which gave rise to symptoms, he would inquire the excuse for one man's doing over 200 Alexander operations, for it was well known that women rarely consulted doctors concerning pelvic conditions without first experiencing pelvic symptoms.

Concerning ventrosuspension, he had seen the abdomen opened in a number of cases after this operation in which the uterus was so firmly fixed to the abdominal wall that there was the appearance of one structure, and the so called suspensory ligament in other cases had varied from one to four or more inches in length; in one instance there was scarcely a sign of the ligament left. He declared that there was no muscular structure in connection with the suspensory ligament, that it was simply an adhesion band analogous to cicatricial tissue, and that as such it was inconstant in its length, its thickness, and its sustaining powers. If it were possible, he would much prefer to examine the 500 cases referred to by Dr. Beyea and draw his own conclusions. Statisticians, he thought, too often found that for which they were looking.

In reference to the Alexander operation, he thought it scarcely suitable except for one of Dr. Noble's "extraordinary capabilities in the diagnosis of intrapelvic conditions."

In the twenty-six cases of operation by Dr. Fisher according to the Montgomery method, there occurred

one suppuration of the abdominal wall. After cicatrization of the parts he had found the uterus just as mobile as at the time of finishing the operation. Had this occurred in connection with a suspension operation, he believed the organ would in all probability have become fixed.

Referring to the Gilliam operation, he said that, while Dr. Gilliam was entitled to credit for first utilizing the uterine segment of the round ligament for abdominal fixation, the operation as practised was an abomination, because upon its completion three openings were present through which intestine might slip and become strangulated. In doing the operation, as advised by Dr. Montgomery, no preternatural openings were created and no raw surfaces tending to the formation of adhesions were left within the pelvis. The strongest portion of the round ligament was utilized, which consisted not alone of fibrous tissue, but also had an admixture of muscular fibre analogous to the musculature of the uterus, a structure, therefore, not so liable to subsequent overstretching as the pseudoligamentous band in connection with the suspension operation.

Book Notices.

A Textbook of Pharmacology and Therapeutics, or the Action of Drugs in Health and Disease. By ARTHUR R. CUSHNY, M. A., M. D. Aberd., Professor of Pharmacology in the University College, London, Eng.; formerly Professor of Materia Medica and Therapeutics in the University of Michigan; Thompson Fellow in the University of Aberdeen and Assistant in the Pharmacological Institute of the University of Strassburg. Fourth Edition, Thoroughly Revised. Illustrated with Fifty-two Engravings. Philadelphia and New York: Lea Brothers & Co. Pp. 752.

"There is still a tendency even among the educated to ascribe therapeutic virtues to every new weed and every new product of chemical industry, and the teacher of pharmacology must not only point out the good, but has the more ungrateful task of condemning the worthless. The period of constructive pharmacology has scarcely dawned; at present its chief function is destructive and critical." These sensible words from the preface indicate the viewpoint of the author throughout this admirable volume, in which he endeavors to prepare the way for a more rational attitude toward the administration of drugs. He is imbued with the best scientific spirit of the modern German and English schools, and in his treatment of the materia medica much of the old empiricism and many of the traditions which still cumber the ordinary textbook have deservedly given way to the results of careful laboratory and clinical methods. Many cherished therapeutical superstitions are rudely swept away, and on this account the book is wholesome reading as a corrective of reckless and unfounded assertions. If the facts contained in the following extracts could be given their proper effect in practice, the art of prescribing would be greatly simplified to the advantage of the patient, the physician, and the scientific pharmacist.

From the opinions expressed it might be surmised that Professor Cushny was a therapeutical nihilist, but such is not the case, as is well shown by his discriminating appreciation of the older, well established remedies and by his intelligent discussion of the newer preparations of real value. In our judgment this is one of the best works on pharmacology that have appeared since the first edition of the classic work of Brunton. It has been carefully adapted to the eighth decennial revision of the *United States Pharmacopæia*.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ending June 8, 1906:

| Smallpox—United States. | | Cases. | | Deaths. | |
|------------------------------|---------------|--------|--|---------|--|
| Places. | Date | | | | |
| California—Stockton | May 1-31 | 3 | | | |
| California—Roseville | May 24 | 1 | | | |
| Dist. of Columbia—Washington | May 19-June 1 | 18 | | 1 | |
| Florida—General | May 26-June 1 | 2 | | | |
| Florida—Jacksonville | May 26-June 1 | 7 | | | |
| Georgia—Augusta | May 21-28 | 2 | | | |
| Illinois—Chicago | May 26-June 2 | 2 | | | |
| Illinois—Galesburg | May 26-June 2 | 1 | | | |
| Indiana—Indianapolis | May 26-June 2 | 2 | | | |
| Louisiana—New Orleans | May 26-June 2 | 17 | | | |
| Missouri—Carthage | Apr. 3-June 1 | 10 | | | |
| Missouri—St. Louis | May 26-June 2 | 1 | | | |
| Nebraska—Omaha | May 26-June 2 | 1 | | | |
| New Jersey—Jersey City | May 27-June 3 | 2 | | | |
| New York—Montroe | May 14 | 1 | | | |
| New York—New York | May 26-June 2 | 10 | | 8 | |
| North Carolina—Greensboro | May 26-June 2 | 1 | | | |
| Ohio—Cincinnati | May 25-June 1 | 11 | | | |
| Ohio—Toledo | May 19-26 | 1 | | | |
| Pennsylvania—Philadelphia | May 26-June 2 | 1 | | | |
| Pennsylvania—Pittsburgh | May 19-26 | 4 | | | |
| Tennessee—Memphis | May 19-26 | 6 | | | |
| Tennessee—Nashville | May 26-June 2 | 1 | | | |
| Texas—Houston | May 19-June 2 | 2 | | | |
| Utah—Ogden | May 31 | 2 | | | |
| Wisconsin—Appleton | May 26-June 2 | 2 | | | |
| Wisconsin—La Crosse | May 19-26 | 1 | | | |

Smallpox—Insular.

Philippine Islands—Manila....Apr. 7-21..... 4

Smallpox—Foreign.

| | | | | | |
|-------------------------------|----------------|----|--|----|--|
| Brazil—Rio de Janeiro | Apr. 22-May 13 | 4 | | 1 | |
| Canada—St. Thomas | May 26-June 2 | 6 | | | |
| Canada—Toronto | May 12-26 | 6 | | | |
| China—Hongkong | Apr. 7-21 | 21 | | 13 | |
| Germany—Bremen | May 12-19 | 2 | | | |
| Gibraltar | May 13-20 | 2 | | | |
| Great Britain—Bristol | May 12-19 | 2 | | | |
| Great Britain—London | May 12-19 | 2 | | | |
| Gt. Britain—Newcastle-on-Tyne | May 12-19 | 2 | | | |
| Greece—Athens | May 13-20 | 2 | | | |
| India—Bombay | May 1-8 | 16 | | | |
| India—Calcutta | Apr. 21-28 | 90 | | | |
| India—Madras | Apr. 28-May 4 | 16 | | | |
| India—Rangoon | Apr. 21-28 | 35 | | | |
| Italy—General | May 10-17 | 29 | | | |
| Russia—St. Petersburg | Apr. 29-May 12 | 14 | | 11 | |
| Spain—Barcelona | May 13-20 | 11 | | | |

Yellow Fever—United States.

Mississippi—Gulf Quarantine...June 4-6..... 3 on Ss.
Whitehall, from Colon.

Yellow Fever—Foreign.

| | | | | | |
|-----------------------|-----------|---|--|---|--|
| Brazil—Rio de Janeiro | May 6-13 | 1 | | 3 | |
| Cuba—Havana | June 7 | 1 | | | |
| Mexico—Coatzacoalcas | May 19-26 | 1 | | 1 | |
| Mexico—Merida | May 13-19 | 2 | | 1 | |

Cholera—Insular.

Philippine Islands—Manila....Apr. 7-21..... 26 22

Cholera—Foreign.

| | | | | | |
|----------------|------------|-----|--|--|--|
| India—Bombay | May 1-8 | 25 | | | |
| India—Calcutta | Apr. 21-28 | 126 | | | |

Plague—Insular.

| | | | | | |
|---------------------------|------------|---|--|---|--|
| Hawaii—Honolulu | June 3 | 1 | | | |
| Philippine Islands—Manila | Apr. 14-21 | 1 | | 1 | |

Public Health and Marine Hospital Service:

List of Changes of Station and Duties of Commissioned and Non-Commissioned Officers of the Public Health and Marine Hospital Service for the seven days ending June 6, 1906:

- ADDIS, W. E., Acting Assistant Surgeon. Granted leave of absence for twenty-six days, from June 4, 1906.
- CARRINGTON, P. M., Surgeon. Granted leave of absence for three days, from June 4, 1906, under Paragraph 189 of the Regulations.
- GRAY, R. H., Acting Assistant Surgeon. Granted leave of absence for thirty days, from June 16, 1906, and excused from duty without pay for sixteen days from expiration of above leave.
- GOODMAN, F. S., Pharmacist. Granted leave of absence for sixteen days, from June 18, 1906.
- GREGORY, GEORGE A., Acting Assistant Surgeon. Granted leave of absence for seven days, from June 4, 1906.
- HALLET, E. B., Acting Assistant Surgeon. Granted leave of absence for two days, from June 2, 1906.

HUNT, REID, Chief, Division of Pharmacology. Detailed to attend the meeting of the American Medical Association at Boston, Mass., June 4-8, 1906.

IRWIN, FAIRFAX, Surgeon. Granted leave of absence for one month and twenty-five days, from July 9, 1906.

JAMES, WILLIAM F., Acting Assistant Surgeon. Granted leave of absence for thirty days, from August 1, 1906, and excused for fifteen days without pay from date of expiration of above mentioned leave.

KASTLE, J. H., Chief, Division of Chemistry. Granted leave of absence for eleven days, beginning June 12, 1906.

McINTOSH, W. P., Surgeon. Granted extension of leave of absence for three days, from June 4, 1906.

MOORE, DUNLOP, Passed Assistant Surgeon. Granted leave of absence for two months, from May 7, 1906.

NUTE, A. J., Acting Assistant Surgeon. Granted three days' leave of absence under Paragraph 210 of the Regulations.

NYDEGGER, J. A., Passed Assistant Surgeon. Granted leave of absence for three months, from August 10, 1906, with permission to go beyond sea.

RICHARDSON, S. W., Pharmacist. Granted leave of absence for ten days, from June 3, 1906.

ROSENAU, M. J., Passed Assistant Surgeon. Granted leave of absence for one day, June 1, 1906, under Paragraph 189 of the Regulations.

RUCKER, W. C., Assistant Surgeon. Granted leave of absence for three days, from June 5, 1906.

SAFFORD, V. G., Acting Assistant Surgeon. Granted leave of absence for three days, under Paragraph 210 of the Regulations.

SIMONSON, G. T., Acting Assistant Surgeon. Granted leave of absence for two days from June 5, 1906.

STEVENSON, J. W., Acting Assistant Surgeon. Granted leave of absence for thirty days, from June 11, 1906, and excused without pay for a period of two months, or so much thereof as may be necessary, without pay, from expiration of leave of absence.

STIMSON, A. M., Assistant Surgeon. Granted leave of absence for seven days, from May 25, 1906, under Paragraph 191 of the Regulations.

VAN NESS, G. J., Pharmacist. Relieved from duty in the Bureau, and assigned to temporary duty in Purveying Depot, Washington, D. C.

WICKES, H. W., Passed Assistant Surgeon. Granted leave of absence for two days, from June 5, 1906.

WILLIAMS, L. L., Surgeon. Granted leave of absence for one month and fifteen days, beginning July 16, 1906.

WILSON, R. L., Passed Assistant Surgeon. Granted leave of absence for seven days, from May 28, 1906, under Paragraph 191 of the Regulations.

WERTENBAKER, C. P., Surgeon. Granted leave of absence for nine days, from June 5, 1906.

Appointments.

Louis Schwartz, George C. Ballard, and Elsworth Wilson appointed acting assistant surgeons for probational periods of six months from date of oath.

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army, for the week ending June 9, 1906:

APPEL, D. M., Lieutenant Colonel and Deputy Surgeon General. Reported for temporary duty in the office of the Chief Surgeon, Headquarters of the Department of California, San Francisco, Cal.

DUVAL, DOUGLAS F., Captain and Assistant Surgeon. Relieved from duty at Fort Williams, Maine, and ordered to Fort Snelling, Minn., for duty.

GRISSINGER, J. W., First Lieutenant and Assistant Surgeon. Left Fort Jay, N. Y., on leave of absence to include July 1, 1906.

HUTTON, PAUL C., Captain and Assistant Surgeon. Granted ten days' leave of absence, with permission to apply for twenty-one days' extension; leave of absence extended twenty-one days.

RICHARD, CHARLES, Major and Surgeon. In addition to his

other duties is announced as attending surgeon at Headquarters, Department of the East, Governor's Island, N. Y.

SWEAZEY, VERGE E., First Lieutenant and Assistant Surgeon. Relieved from further treatment at the General Hospital, Washington Barracks, D. C., and ordered to Fort Williams, Me., for duty.

YOST, JOHN D., Captain and Assistant Surgeon. Relieved from duty at Honolulu, H. I., and ordered to proceed to Manila and report in person to the commanding general, Philippines Division, for duty.

Navy Intelligence:

Official List of Changes in the Medical Corps of the United States Navy, for the week ending June 9, 1906.

ASSERSON, F. A., Passed Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., June 14th, and ordered to the *Arkansas*, temporarily, and thence home to await orders.

BACKUS, J. W., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., June 15th, and ordered to report for examination for promotion, and then to await orders.

CAMPBELL, F. E., Assistant Surgeon. Ordered to the *Constellation*, and to additional duty at the Naval Training Station, Newport, R. I.

DENNIS, J. B., Surgeon. Detached from the Naval Proving Ground, Indian Head, Md., and ordered to command the Naval Hospital, Puget Sound, Washington, with additional duty at the navy yard at that place.

GEIGER, A. J., Assistant Surgeon. Detached from the Navy Yard, Mare Island, Cal., and ordered to Washington, D. C., June 15th, for examination for promotion, and then to await orders.

KERR, D. B., Surgeon. Detached from the Naval Medical School, Washington, D. C., June 15th, and ordered to the Naval Recruiting Station, Chicago, Ill.

MAYERS, G. M., Assistant Surgeon. Detached from the Naval Medical School, June 15th, and to navy yard, Washington, D. C.

McCONNON, G. H., Assistant Surgeon. Detached from the *Missouri* and ordered home to await orders.

MEYERS, G. M., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., June 15th, and ordered to report for examination for promotion, and then to await orders.

MICHEL, R. H., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., June 15th, and ordered to the Naval Recruiting Station, Kansas City, Mo.

MOORE, J. M., Passed Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., June 15th, and then to report for examination for promotion, and then to await orders.

MUNSON, F. M., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the Naval Proving Ground, Indian Head, Md.

PICKERELL, G., Surgeon. Ordered to the *Franklin*.

RYDER, C. E., Assistant Surgeon. Detached from the *Missouri*, and ordered home to await orders.

SHAW, H., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., June 15th, and ordered to the Naval Hospital, Philadelphia, Pa.

SHOOK, F. M., Assistant Surgeon. Detached from the Naval Hospital, Mare Island, Cal., and ordered to the Navy Yard, Mare Island, Cal.

STREETS, T. H., Medical Director. Detached from the command of the Naval Hospital, Naval Home, Philadelphia, Pa., and ordered to await orders.

TYREE, F. W., Acting Assistant Surgeon. Detached from the Naval Recruiting Station, Kansas City, Mo., and ordered home to await orders pending expiration of term of appointment as acting assistant surgeon, July 1, 1906.

VON WEDEKIN, L. L., Surgeon. Detached from the Naval Recruiting Station, Chicago, Ill., and ordered to await orders.

WEBB, U. R., Passed Assistant Surgeon. Detached from

the Naval Medical School, Washington, D. C., June 15th, and ordered to the Naval Hospital, Portsmouth, N. H.

Births, Marriages, and Deaths.

Married

COOPER—RONEY.—In Philadelphia, on Saturday, June 2nd, Dr. Frank Chambers Cooper and Miss Marie Roney.

DUFFY—REEVES.—In Washington, D. C., on Monday, June 4th, Dr. Frank Jay Duffy, of New York, and Miss Joan Reeves.

GAMBLE—EARLY.—In Philadelphia, on Wednesday, June 6th, Dr. Warren A. Gamble and Miss Ethel Early.

JONES—REHN.—In Philadelphia, on Saturday, June 2nd, Dr. Arthur Jones and Miss Dorothea Rehn.

O'DANIEL—GOODWIN.—In Philadelphia, on Monday, June 4th, Dr. Andrew Allison O'Daniel and Miss Ethel Bower Goodwin.

PALMER—LUMLEY.—In Dallas, Texas, on Monday, June 18th, Dr. J. Willard Palmer and Miss Fannie Lumley.

PORTER—HAKES.—In Albany, N. Y., on Saturday, May 26th, Dr. E. Pender Porter and Miss Winifred M. Hakes.

Died.

BARTON.—In Danville, Illinois, on Wednesday, May 30th, Dr. Philip H. Barton, aged seventy-one years.

BOARDMAN.—In Springfield, Illinois, on Friday, June 1st, Dr. Samuel P. Boardman.

DIGBY.—In Brantford, Ontario, Canada, on Tuesday, May 29th, Dr. James W. Digby.

DUPREE.—In Cincinnati, Ohio, on Saturday, May 26th, Dr. J. W. Dupree, of Baton Rouge, Louisiana, aged sixty-three years.

FINDLEY.—In Altoona, Pennsylvania, on Sunday, June 3rd, Dr. William M. Findley, aged sixty-four years.

HUBBARD.—In McKinney, Texas, on Saturday, May 26th, Dr. Moses Hubbard.

IRVIN.—In Philadelphia, on Sunday, May 27th, Dr. Spencer P. Irvin.

IVES.—In New Haven, Connecticut, on Saturday, June 9th, Dr. Robert S. Ives.

JOHNSON.—In Chicago, Illinois, on Monday, June 4th, Dr. George W. Johnson, aged forty-five years.

LA ROE.—In Brooklyn, N. Y., on Wednesday, May 30th, Dr. James G. La Roe, aged sixty years.

LISTON.—In Albany, N. Y., on Friday, June 1, Dr. Robert J. Liston, aged seventy-three years.

LONG.—In Chester, Pennsylvania, on Monday, May 28th, Dr. Frederick Farwell Long.

MAXWELL.—In Keokuk, Iowa, on Sunday, June 3rd, Dr. John R. Maxwell.

McADAMS.—In Nevada, Missouri, on Wednesday, May 30th, Dr. J. M. McAdams, aged thirty-five years.

McFATRICH.—In Denver, Colorado, on Sunday, May 27th, Dr. Hugh A. McFatrigh, aged eighty-two years.

NORTON.—In Philadelphia, Pennsylvania, on Thursday, May 31st, Dr. Claude R. Norton.

PHENIX.—In Los Angeles, California, on Thursday, May 31st, Dr. Edwin R. Phenix, of Detroit, aged forty-three years.

PREISS.—In Buffalo, N. Y., on Wednesday, May 30th, Dr. Frederick Preiss, aged thirty-eight years.

RICHARDS.—In New York, on Sunday, June 3rd, Dr. J. Wesley Richards, aged thirty-seven years.

ROWE.—In Forest, Mississippi, on Saturday, May 27th, Dr. Alma Rowe.

SAYERS.—In Chicago, on Tuesday, May 29th, Dr. Samuel R. Sayers, Jr., of Wytheville, Va., aged thirty years.

THOMAS.—In Elkhart, Indiana, on Thursday, June 7th, Dr. Warren H. Thomas, aged sixty-five years.

TREMAINE.—In Chicago, on Thursday, June 7th, Dr. J. Eugene Tremaine, aged thirty-seven years.

WETMORE.—In Buffalo, N. Y., on Monday, May 28th, Dr. Samuel W. Wetmore, aged seventy-four years.

ZERVONDAKES.—In Chicago, on Tuesday, June 5th, Dr. A. G. Zervondakes, aged fifty years.

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JOINT DISEASES, ESPECIALLY THOSE OF CHILDREN.*

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In children we find the most frequent expression of joint diseases in tuberculous degenerations. The explanation of this is simple; the joint epiphyses are the centres of activity and growth, while at the same time the natural condition of childhood is one of almost constant motion, favoring in its recklessness numerous slight, and not infrequently severe traumatisms.

Tubercle bacilli are practically always seeking to gain admittance through an open wound, through a diseased throat, through the air passages, or through any of the inlets of the body. The bacillus having gained entrance into the circulation may be arrested in the epiphysis of a joint where it lies dormant until slight traumatism, lowering the vitality of the bone, lessens resistive power, and the bacillus gains a permanent developmental foothold.

Hereditary influence is denied by some as a cause of joint tuberculosis. Heredity is a condition of lowered resistance of the body tissues against any invading bacillus. It is not to be inferred that a child of tuberculous parents will necessarily be afflicted with tuberculosis, nor that a child of healthy parents cannot become tuberculous. The child of healthy parents may have his resistive powers lowered by an attack of typhoid, scarlet fever, or diphtheria, by anæmia, or by any exhaustive disease. He is temporarily open to invasion and is also locally temporarily nonresistant by the lowering of vital powers. In this condition a slight traumatism with its accompanying alterations in local circulation may permit a local infection that under full healthful conditions would have been easily warded off. The healthy child of healthy parents, therefore, can and does resist and conquer many tuberculous invasions, which in the child with less resistive tissues prove disastrous. A clear understanding of this point is exceedingly important, since many surgeons dismiss the possibility of a joint disease being tuberculous, simply upon the fact that no tuberculosis could be traced in the family. In the first place,

such histories are absolutely unreliable. Very few patients will admit the existence of tuberculosis, unless it is unmistakably and notoriously present. Scores upon scores of times have I seen the parents of children die of phthisis, while the patients were still under treatment, and yet not the slightest trace of tuberculosis (or scrofula) could be elicited in the history. Tuberculosis is tuberculosis wherever seen, just as a fire is a fire wherever it occurs, even though fires differ greatly in degree. The question of hereditary influence, therefore, should have no effect upon diagnosis. Upon prognosis, however, the influence of heredity is most positive and undeniable, since the healthy child will throw off many an invasion to which the less resistant will succumb. Each case should be judged by its clinical symptoms. If the symptoms of tuberculous invasion are present the diagnosis and the treatment should be speedy and absolute.

It is not to be expected that all cases of tuberculous infection will exhibit the same symptoms, since the invasion presents itself in such a variety of forms and grades. The typical cases are easy of recognition. Take hip disease as a typical illustration. After a slight, and perhaps unnoticed, injury a limp is noticed. This limp may be slight, it may be constant, or intermittent, it will sometimes only be noticed after a long walk, in some cases it will be worse toward evening; in others it will be most marked upon rising in the morning. The very first symptom, however, even antedating the limp, will be restlessness at night. The child will shift the limb from side to side. He may complain of an ache, not a pain, and if asked as to its position, may draw his hand along the inner side of his thigh from the knee half way to the perinæum, always a suspicious sign of irritation of the obturator, or he may point to knee or ankle, or abdomen, if spondylitis has commenced. Almost simultaneously will be discovered a slight rigidity of the periarticular muscles about the affected joint, either hip, spine, knee, or ankle.

This rigidity is the most definite, the most reliable, and the earliest sign of joint invasion. It is the effort of Nature that is the plainest possible guide not only in diagnosis but in treatment. It is often present in the first ten days, the most opportune time for aborting the disease. If neglected, the golden opportunity is lost. This rigidity may manifest itself by slight limitation of motion in one direction, or in all, but is almost universally present, and a little later in the disease it becomes so absolute as almost to simulate ankylosis. At the hip rigidity is speedily noted by flexing the opposite leg upon the

* Read before the Hartford City Medical Society, April 2, 1906.

abdomen so as to bring the pelvis in straight line with the body, when it will be readily seen that the knee is lifted several degrees from the hard table or bed, and is either adducted or abducted.

No child, and but few adults, can be satisfactorily examined for spine or hip disease without being stripped. Failure in this important step is the cause of one half of the errors in diagnosis. If the spine is the seat of the disease, this rigidity is marked not only in the peculiar postures and stooping movements of the child, but in every position of flexion, extension, lateral bendings, rotation, etc., all of which should be noted. This rigidity long antedates the deformity of kyphosis; in fact, the surgeon who waits for the presence of an angular kyphosis in the spine to demonstrate the giving way of the bodies of the vertebræ is no wiser than many an ignorant mother. The mischief is already done, and the physician can only repair damages that should have been prevented long before.

Pain, although ordinarily dwelt upon as one of the essential symptoms of tuberculous spine or hip or knee disease, may be entirely absent. Again, the absence of pain is often given by physicians as an excuse for failure in diagnosis. Local pain in my experience is the exception, not the rule. Reflected pains along the line of the irritated nerves which emerge from the diseased vertebræ are, however, common, and the child is treated for cough, for intestinal disease, for leg pains, etc., until too late.

Pain is recognized by the muscular sense of the patient long before it is definitely interpreted by the brain as a distinct sensation. This early recognition is evidenced by rigidity and limp, but not by open complaint. Throughout the entire course of hip disease, although the head of the femur has been destroyed and the acetabulum perforated, not a single complaint of recognizable pain at hip or the knee may have been made by the patient. On the other hand, when there is an acute osteitis or epiphysitis, the pain may be intense and excruciating from the beginning. These extremely painful cases, which continue in spite of all forms of treatment, are the ones in my experience that go on to rapid destruction of the bone, and which require early excision of the head of the femur. The night cries so frequently accompanying hip disease are, of course, the expression of pain. You all understand their significance. The muscles that have by their rigidity so persistently guarded the joint against motion now relax during sleep, until the resultant pain arouses them again into activity, the sore head of the femur is driven suddenly into the acetabulum, and the patient arouses with a shriek. It is to control this muscular spasm that continuous extension is applied.

The important point to be emphasized is that the disease can be diagnosed early, and that it must be diagnosed early in order to be aborted. That hip and other joint disease can be aborted if taken in its inception is absolutely true. The same may be said of the knee and ankle. We need hardly speak of the upper extremity, as the conditions, save at the wrist, are rare.

The diagnosis is of the utmost importance, since on the early diagnosis rests the treatment of the case, and upon treatment depends the whole prognosis. Undiagnosed, or improperly treated for

the first months, destruction of the joint is exceedingly probable, and under the most favorable circumstances years will be consumed before the condition of safety is reached. An early diagnosis is just as important and perhaps more so than in appendicitis or osteomyelitis, especially since in the former disease many appendiceal infections will take care of themselves, while a tuberculous hip disease unrecognized and neglected is almost sure to progress badly. It seems impossible to me that family physicians and even excellent surgeons can take the risk of such serious consequences, when a few moments' observation and care would suffice for a correct diagnosis. The family physician at the present time is perhaps even more alert in appendicitis than the surgeon in discovering this disease (oftentimes when it does not exist at all!), while in joint disease he allows days, weeks, months to pass by without making any diagnosis, or, worse still, will attribute the limp and pain to that greatly abused term, rheumatism. There can be but one explanation for this delay, either carelessness or ignorance.

RHEUMATISM. Any physician who will honestly review his joint cases will discover that more than ninety per cent. in children turned out to be either tuberculous, septic, or infectious, and that every case of rheumatism of a single joint in a child presented symptoms that were frank and positive. I know that I can truly say after forty years of practice, that I have never seen monoarticular rheumatism in a child that was not immediately and distinctly capable of being diagnosed. Practically every case of joint disease in children should be treated upon the basis that it is either tuberculous or infectious. The burden of proof should lie upon the side of rheumatism, not upon the side of tuberculosis, since treatment by rest and fixation directed against the latter disease will never injure, while neglect of precautions and permitting the child to run about will ruin thousands.

Is there any possible excuse for the neglect and crime of waiting for a diagnosis? Can any one show a case benefited by delay? Hundreds of patients, however, have been crippled by delay, and many have lost their lives.

Rheumatism is an infectious disease, and while many investigators have announced the discovery of certain typical organisms, yet until they agree more definitely we must await confirmation. We talk of uric acid, of bacillary infection, of autoinfection, of faulty metabolism, and of a score of matters, but make rheumatism the dumping ground of our ignorance. Pains due to periostitis, osteitis, sprains, muscle tears, ligamentous lacerations, loose cartilages, tears of periosteum, muscle strains, fibrous tissue inflammation, are all called rheumatism, without any attempt to discover the cause.

It is not exaggeration to say that nine out of ten cases of joint disease that come to me have been maltreated for rheumatism for weeks and months, when they have presented no symptoms of rheumatism from the beginning, except possibly the one complaint of pain. A few cases selected at random from my note books will illustrate the criminality and carelessness of attributing to rheumatism conditions that should not in any wise be confounded with that disease:

CASE I.—Girl, two years of age, treated by two or three different physicians for rheumatism. Joint disease at both hips, with thighs flexed at right angles to the body. In her attempts to stand, patient had thrown her shoulders backward, lordosing the lumbar spine; finally, sent to an instrument maker for a brace to correct the lordosis, the actual disease at the hips being ignored or unrecognized.

CASE II.—Boy, fourteen years old. Thigh fluctuating bag of pus, undulating, visible to the eye, without palpation. High fever and temperature for weeks. Thoroughly septic, yet still being treated for rheumatism. Immediate incision revealed lower epiphysis of femur entirely destroyed and separated from shaft.

CASE III.—Girl, seven years old. Treated for year by prominent physicians for rheumatism of hip, although history was typical of tuberculous hip disease, and every book symptom present. Five years of subsequent treatment required to secure even a fair result, with ankylosis in bad position.

CASE IV.—Boy, three years old. Treated for six months by a physician for rheumatism of knee, even two months after abscess and sinuses appeared. Result, two years of suppuration, two erosions, ankylosis.

CASE V.—Boy, eight years of age. Treated two years by surgeon for rheumatism of knee. Has been permitted to walk about. Joint fixed at right angle, densely infiltrated throughout whole region; ligaments destroyed; partial subluxation. Erosion, joint destroyed, filled with tuberculous material. Result, anklosed joint.

CASE VI.—Girl, four years old. Treated by family physician for ten months for rheumatism of ankle. Walked about though in pain; finally suppuration. Rheumatic treatment still continued, although many sinuses present. Tarsal bones all carious, required several erosions. Final recovery, with only fair walking foot.

CASE VII.—Boy, ten years of age. Treated for one month by physician for rheumatism, although large pus sacs in both legs below knees. Patient thoroughly septic; immediate incisions; large quantities of pus, while upper epiphyses of both tibiae were destroyed by osteomyelitis. Bones thoroughly gouged and drained. Final recovery, with crippling deformity.

CASE VIII.—Boy, twelve years old. Treated for eighteen months for rheumatism by family physician, although thigh flexed forty degrees from psoas contraction, and a decided kyphosis was present at eighth dorsal. Back rigid, and every symptom of spinal caries. Large abscess palpable in iliac fossa.

CASE IX.—Boy, eighteen years of age. Treated by physician for rheumatism for two months. Both knees intensely painful, full of pus. Free incisions, washings and drainage. Gonococcus present.

CASE X.—Boy, thirteen years of age. Had grippe, followed by swelling of knee; treated by physician for rheumatism for two months. Joint filled with pus; streptococcus. Wide opening and packing.

CASE XI.—Boy, thirteen years old. Typhoid, followed by knee infection. Diagnosed and treated for weeks as rheumatism. Pus in joint. Opened.

CASE XII.—Boy, twelve years of age. Pain in leg for weeks, called rheumatism. True cause, necrosis of tibia, requiring removal.

But why multiply these unpleasant recitals, which could be duplicated indefinitely.

Early diagnosis then is of the first importance. Of the difficulties in diagnosis certainly ninety per cent. will be easily solved by a careful examination of the naked body. A few points only need be touched upon. In the spine the rapid giving way of the lateral portion of a vertebral body may give a lateral tilt, but the tilt differs from the rounded

curve of lateral curvature by its short angularity to the side. Again, an angular posterior kyphosis differs from the long kyphosis of rickets. Syphilitic sprondylitis in a baby may sometimes be puzzling unless other evidences present themselves. Rest, however, is applicable in either case. Typhoid sprondylitis has its own history.

At the hip, when thickening is not marked, and the head of the bone lies on the dorsum of the ilium, and the skiagraph shows an altered head and neck; such a case may cause one to suspect congenital dislocation. In the one case, however, the acetabulum is congenitally shallow, while in hip disease the rim has been destroyed. In the former the caput and neck are always misshapen; in the latter, the head may be partially or wholly destroyed. Induration and fixation will be present in hip disease, absent in congenital deformity. In coxa vera the head is intact, and lies within the acetabulum, only the neck is altered.

In infantile paralysis, while flexion of the joint may be present, it will be readily seen that it is caused by muscular contracture, and that all other movements of the joint are exaggerated, not diminished. Muscular atrophy at hip and thigh will also take the place of induration and thickening.

Proas contraction should always lead to an investigation of the spine, but a combination of spine and hip disease is not uncommon. Sepsis from measles or other exanthematous exhaustive diseases has usually a definite history of epiphysitis.

KNEE DIAGNOSIS. At the knee, the surgeon meets more puzzling cases than at any other joint. Tuberculous, sepsis, gonorrhoea, traumatism, loose bodies, displaced semilunars, contusions, lacerated ligaments, sensitive hysterical joint, all require careful consideration, especially in adults. In many cases the careful weighing of all the points in the history and the thorough consideration of the clinical facts presented, together with the aid of the x ray and other appliances, will all be essential to a correct diagnosis. A flexed, swollen, and indurated knee in a child should always be considered tuberculous unless definitely proved otherwise. In adults also, such a tuberculous invasion should first be considered; then septic, gonococcic, streptococcic, pneumococcic, or other infection. Noninfectious arthritis with effusion may follow any form of traumatism, but while the swelling may be great, it is not so indurated or doughy as that in tuberculosis. The effusion and tenderness following sprains and the slipping of semilunar cartilages, of floating bodies, of fatty or otherwise degenerated synovial fringes, will all have definite histories and varying grades of effusion and pain, but will ordinarily present less induration than tuberculosis.

CHRONIC VILLOUS SYNOVITIS. The creaking or crepitus, often plainly audible, especially on stairs, usually thought to be due to deficiency of synovial fluid. It is rather due to general relaxation of muscles or ligaments with somewhat cedematous and relaxed synovial membrane; the folds rubbing together may be pinched until thickening occurs, and later, separation of masses and the formation of floating bodies may lock the joint. Pain and slight effusion often follow. Such a condition requires local massage, muscular gymnastics, constitutional medication, slight counterirritation, etc.

Quiet Effusion into knee, as described by English writers is said to occur only in girls with irregular menstruation, but is really a slow synovitis of low grade, from slight, perhaps unrecognized, traumatism with small effusions. Swelling is more noticeable in women, because all women have fatty pouches upon either side of and below the patella. Such joints do not require rest, but rather regulated systematic exercises in an orthopædic gymnasium with out door life and attention to digestion and menstrual functions.

NEUROTIC HYSTERICAL KNEE, OR SENSITIVE KNEE. A neurotic hysterical knee will give any surgeon an opportunity to use his brain, and fingers, and eyes to their full limit. In such a case moderate injury of the knee from sprain, contusion, or other traumatism, has very properly had the joint placed at rest for a certain period of time through the inflammatory stage. The attending physician, however, has failed to recognize the golden moment when rest is no longer required, and has continued the fixation too long, forgetting that motion is the normal condition of a joint, and rest is only applicable during the stage of inflammation. Mature and deliberate judgment is of course necessary to decide just the time, when rest should be replaced by motion. A mistake may cause irreparable damage to a joint that is becoming tuberculous. Wise caution therefore, should be exercised and the results of motion closely watched. When the proper period for the beginning of motion, however, has been missed, and the patient has been on crutches or in bed for a year or more, as not infrequently happens, the problem that presents itself to the surgeon who now sees her for the first time, is a most puzzling one.

The neurotic knee is sensitive, the patient is pale, anæmic, shrieks at the slightest touch, cries, or faints when movement is attempted. On careful examination however, it will be noted that the symptoms are out of all proportion to the amount of deposit or swelling present, that tenderness is much less marked when the attention is distracted, that, while the signs of slight effusion exist yet, there are no evidences of degeneration such as would be noted in tuberculosis. Under thorough etherization, the apparently complete fixation partially or wholly disappears, although some fibrous bands may still exist; the skiagraph will show bones and cartilages in good condition.

Such a sensitive joint and sensitive individual require, first that the surgeon shall secure the full confidence of the patient and shall be so certain of his diagnosis that he can assure her of ultimate relief and of good locomotion. The first movements under ether should not be sufficiently severe to arouse any serious inflammatory reaction in the cedematous and sensitive synovial membrane. On the following day the patient should be encouraged voluntarily to move the knee slightly, and the next day more. Then gentle massage, voluntary and involuntary passive movements should follow, under careful supervision. A wise masseuse or skillful physical culture instructor will greatly assist, especially if the many appliances of an orthopædic gymnasium or of a Zander institute are at hand. A second anæsthetization will occasionally be required. Soon the crutches can be replaced by a cane, then this cane will be discarded and longer

walks attempted. An out door life is absolutely essential. Drugs and local applications are of secondary importance.

X RAY. The x ray is an important aid in diagnosis. By its use we may discern the amount of erosion in cartilage and bone, or the seat of tubercular deposits, the presence of pus, etc., and thus greatly aid not only in diagnosis, but also in early operation and removal of tuberculous foci by trephine or gouge, or of pus in infections. Therapeutically employed it ought to have and seemingly does have a slight influence in retarding the growth of tubercle bacilli.

The Finsen concentrated sunlight and ultra violet rays also ought to retard the growth of tubercle bacilli, but of their influence it can only be said that their employment is still in the experimental stage as to deep regions, and is both difficult and expensive. Naked exposure of the affected joint to the direct sun's rays, I believe to be a better method of treatment.

The electric light bath is in the same stage of experimentation.

As to the treatment of tuberculous joint disease, I need only say that the diagnosis being assured, prompt, effective, and persistent efforts must be made first to arrest and limit the tuberculous invasions, and secondly to prevent the added element of suppuration. The first may be summed up under the heads of local rest and fixation, together with the fortification of the system to repel the attack. In acute cases absolute rest in bed with extension will often abort the disease if undertaken in the first ten days. Its effect in controlling muscular spasm and pain, is undoubted, but to be of service it must be absolute and rigid. My rule is to continue this horizontal extension three months after all pain has ceased. When the patient is ready for vertical locomotion, fixation is still demanded, since it also fulfills the second indication, that of protection against traumatism and the averting of suppuration.

Discussions as to the relative value of traction versus fixation methods are endless. Both are a part of the general principle of protection. One method is applicable to a certain class of cases, the other to a second class; the surgeon must use discrimination. No traction splint yet devised exercises traction at the vital moment when the weight of the body is thrown upon the splint, no matter how tight the perineal straps are drawn. As a protection splint, however, either used with axillary crutches or as a perineal crutch, it has its place. With axillary crutches and a high shoe on the sound foot the total amount of traction exerted by the weight of the leg in a fixation splint is probably about equal to that of a traction splint.

The general principles of rest, fixation and extension are applicable to all joints, spine, hip, knee, ankle, elbow, and wrist. After the acute stage has been passed in bed with extension, an apparatus that will limit motion, protect the diseased area, avoid weight bearing, will be indicated. We need not stop to discuss the various special appliances. Every thinking surgeon must himself work out the problem for the individual case, and must not trust it to the routine and ignorant instrument maker.

OUT OF DOORS. Most important of all considerations, however, in the treatment of joint and bone

tuberculosis is the question of an out door life, not for a short portion of each day and for a brief period, but day and night and for many months. When nine years ago, I added to my ward a sun-porch large enough to accommodate the beds of all tuberculous patients, I at once found it the best part of my armamentarium. Widely open in summer and partially protected in winter, it has improved appetites, shortened disease, healed abscesses, and saved lives. No matter how cold the air may be, the children soon learn to ask for the privilege of sleeping in the fresh air. This is not a fad nor a fancy, it is a reality, and can be secured even in a city where the poor are unable to remove their children to healthier regions. A porch or tent can usually be found, and with the child upon an inexpensive gaspipe tray, change of place and position can be secured.

For the wealthy, a sanatorium life, with the education secured by its rigid rules and regulations, will be helpful upon mind and body. We shall soon learn that these conditions are as important for surgical tuberculosis as for tuberculosis of the soft parts.

When it is acknowledged that one seventh or more of all deaths are caused by tuberculosis and that more than seventy-five per cent. of all individuals are at some time in their life affected with tuberculosis, then we shall all arouse to the importance of the conflict. We are steadily but surely advancing, and in another quarter of a century we may confidently hope to see this scourge practically conquered.

Surgical tuberculous cases should be treated in sanatoria entirely separated from the more virulent infections of the lungs. The air should be of the best, laden with pine odors if possible; the sunlight should be abundant, the exposure continuous; rest, exercise, and food should be carefully regulated. Overfeeding is undesirable; only food that is digested and assimilated is helpful; all beyond that point overtaxes the digestive apparatus, and is harmful in the end. The advantages of many regions lauded for the cure of tuberculosis consist in the fact that the hours of sunshine per month is large. Surgical tubercular patients thrive better in sea air than do phthisical cases. The best results in my experience is to be obtained by the alternation every three months of seashore and mountain sanatoria.

For cases in bed a large porch on a level with the ward is the more desirable and convenient than tents. A roof to protect from rain should have one section of wood for hot weather, another section of glass; connected with this porch should be an uncovered porch for direct exposure of the body in sunny hours. Colored glasses or parasols will protect eyes. Side awnings may be added to protect from extreme heat and from driving storms. When such a porch cannot be secured, placing the child upon a cheap canvas covered gaspipe frame or tray permits easy transport from chamber to yard or porch, veranda or tent, but in cold weather, if placed on trestles or supports the tray is too cold for the patient's back.

This porch should be absolutely open in summer, heated, and glass enclosed in winter, with both large sash and transoms to regulate free supply of cold fresh air at all times. The freshness of the air is

more important than its temperature; consequently when abundant heat is supplied, the supply of oxygen can be increased. All beds should have large 5 inch easily moving wheels.

In the country a shed, or a tent, or a shack, is easily erected. Education as to the opening of windows can be taught. Devices for pushing the head of the bed out of a window at night are multiplying. American ingenuity will soon outstrip Germany in these details.

Hospital wards for surgical tuberculous patients should have one third the wall space of glass, should look east, south and west, with no interference to the sun's rays. Day sheds and verandas at sanatoria should be wide open toward the south. Tents are exceedingly hot in summer.

Unfortunately, many cases of surgical tuberculosis are obliged to be on crutches, and the rough ground of the woods renders locomotion difficult and dangerous, since traumatism is the chief factor in engrafting suppurative infection upon already existing tubercular conditions.

At Wellesley Hills is found one of the best of cheaply constructed surgical tuberculous hospitals. The buildings are of rough boards, wainscoted four feet high, with movable glass sashes above. At the apex of the roof large movable windows also permit adjustment of temperature. During the day, living on flat wagons, the children are instructed and amused in a ward similarly constructed and partially warmed. At night in the colder atmosphere they are clothed with shirt, cotton flannel nightgown, red flannel jacket, long shaker flannel gown, with hood, socks, and six to eight blankets.

Colds, bronchitis, and pneumonia are unknown. The one objection that will present itself to the lay manager is the fact that "the provision bills are doubled." A good recommendation, in my estimation; much more will be saved in drugs and in funeral expenses.

So much for the most important part of treatment.

Bier's method of constricting the limb above the diseased joint so as to produce venous stasis has never appeared rational, yet published results seem to be favorable. Its beneficial effect can only be attributed to the increased resistive power secured by a larger local supply of leucocytes. It certainly requires good judgment to determine the precise amount of stagnation required.

As to the early operative treatment of tuberculous disease of the joints, when the x ray shows decided tuberculous foci in the epiphysis either at hip, knee, or ankle, a trephine or gouge may be used to remove it, the wound flushed with absolute alcohol, and closed at once. So long as mixed infection does not occur, and there are no signs of suppuration, the outlook is favorable. When, however, a fluctuating tumor appears either from spine, or hip, or knee, the aspirator may be used, but only as a diagnostic test. If only the liquefaction of caseation is drawn, a laboratory investigation may show that no further interference is required at that time, and a second or third aspiration may assist in hastening caseation and encapsulation. Injections of iodoform are highly recommended by some surgeons, in my experience they are useless.

When aspiration shows true purulent material

free incision, washing, and draining is advisable. If dead bone is found, erosion should be promptly done, all carious bone removed, pure carbolic acid mopped over both raw and diseased surfaces, followed by thorough flushing with absolute alcohol. The wound may be closed at once. If reaccumulation occurs, the incision can be readily reopened, in other cases free drainage is necessary. In spinal caries, complete erosion of diseased bone is impossible. As a rule, choice between erosion and excision must be made after the joint is opened and is dependent upon the extent of diseased bone.

Excision of the knee or hip will be required when the disease has been neglected and when it has progressed to death of a large portion of the bone. If the trochanters of the femurs can be saved, the subsequent usefulness of the limb will be greatly increased. I have patients who can balance themselves upon tiptoe of the diseased side after excision of the head and neck of the bone.

At the knee free exposure is required. Sections should be no greater than absolutely necessary. For best results the joint should be freely opened, and every corner of the articulation searched for diseased tissue. The direct final application of pure carbolic acid followed by alcohol will satisfactorily complete the operation.

Erosion, or the removal of diseased bone only, is preferable to excision in a large majority of cases in children, since the latter operation usually interferes seriously with the epiphysis, and thus greatly lessens subsequent growth of the bone. Even five inches of shortening may thus be produced. In children repeated erosions are better than this crippling deformity, as time is an element of but small importance.

At the ankle or wrist this operation is especially indicated, since the spongy character of the carpal and tarsal bones renders complete removal of all diseased tissues very difficult. By conservative measures and several erosions, a useful movable wrist or ankle can often be secured, provided the gouge has been freely used.

While conservation should be the rule in the child, yet in adults the conditions differ greatly, and amputation is often required. General surgeons, however, are too prone to amputate limbs for joint disease in children, as it is a simple and rapid method of cure. The permanent loss of a limb, however, is a serious matter, when erosions, even though several times repeated, will give a good walking limb.

In tuberculous cases true rational conservatism, which consists in meeting every emergency promptly and judiciously, should be the rule. This will require close and careful study of each case; many will be benefited by withholding operative interference; others require thorough surgical procedures. One can afford to be much more conservative in children than in adults.

Septic cases, however, are entirely different in their character and should be placed in a separate class. Infectious joint diseases other than tuberculous should be treated along extreme radical lines; the operation should be both speedy and thorough. Streptococcus, gonococcus, pneumococcus, and staphylococcus, or syphilitic infections are all dangerous in proportion to their virulence. As a rule, all such affected joints should be widely opened, washed out with bichloride, alcohol, sterile water, or

some other antiseptic, swabbed and drained. Where the infection is very virulent, as often happens at the knee, the whole joint should be laid widely open, flexed, and packed, so that poisonous germs may be removed from the body as speedily as possible. Cases of less virulence may be washed and drained. Aspiration as a preliminary measure for diagnostic purposes may be employed, but will not, as a rule, sufficiently relieve the cause of trouble. In osteomyelitis near a joint, the operation should be done in the first twenty-four or forty-eight hours at the latest, if life and limb are to be saved. If rheumatism is a bacillus infection, as seems probable in the acute cases, it will find its best relief in opening of the joint and the application of carbolic acid, followed by pure alcohol, the germs having been removed, the joint can then be closed.

Gonorrhœal arthritis undoubtedly requires speedy removal of the infecting germs. While it may possibly get well under aspiration, the result is uncertain and ankylosis will probably result. Pneumococcic infection is also exceedingly liable to destroy the joint.

CONCLUSIONS. 1. Early diagnosis is the most important of all considerations. Physicians are responsible for a large majority of joint destructions chiefly from carelessness or indifference in the examination of their patients. A child with any peculiarity of gait or carriage should be examined naked.

2. Every physician should abandon the thought that pain in a single joint in a child means rheumatism. A limp or peculiar gait with rigidity of periarticular muscles in a child always means some form of invasion, probably tuberculous, possibly septic.

3. Abort tuberculous infection by immediate absolute rest and fixation of the joint.

4. Put the patient out of doors, day and night, for a long period of time.

5. Wise conservatism consists in the prompt application of all methods of relief, whether hygienic, mechanical, or surgical. In children conservatism should be the rule, since youth has remarkable recuperative power. In adults, however, operative measures are much more frequently demanded. A limb that can readily be saved in a child, in the adult will demand amputation. If an operation will best accomplish a cure, such operation is true conservatism.

6. In septic cases following streptococcic, staphylococcic, pneumococcic, or gonococcic infection, open early and freely.

1818 CHESTNUT STREET.

THE IRISH RIVIERA.*

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We are often consulted by the overworked business or professional man or woman, or by the convalescent from acute illness, who is not yet quite fit to take up active work again, as to

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the advantages of an ocean trip combined with a short stay in new and interesting surroundings. To those who cannot find time for the long Mediterranean voyage, with its accompanying artistic and archæological attractions, a trip of four weeks to Ireland, and around its southern and western coasts, lakes, and mountains can be confidently recommended. One needs to be dead to appreciation of natural beauties, who cannot find in this region both charm and rest to his physical senses, and to one who has enough Irish blood in him to enter into the poetry, patriotism, cheerfulness, and humor of the Irish people, the trip is sure to be almost an unmixed joy. The slight reservation is made because two things may mar the traveler's happiness—hotels which leave something to be desired, and rain, which though liberal as to quantity is yet as soft and gentle as the Irish smile, and which soon gives way to sunshine, like the country itself, which has been smiling through her tears during the last seven centuries of British misrule.

Even for those who wish to make a winter stay of three or four months, there are parts of Ireland where the winters are mild, genial, and even delightful, and where the climate is not subject to the rapid variations in temperature which mark the climates of more southern countries. This is especially true of the southern coast line of Cork and the southwest coast of Kerry. Here the westerly and southwesterly winds are warmed by their passage over the Gulf Stream and have a moderating influence on the Irish climate, although it cannot be denied that they add to its humidity. The southwest coast of Kerry probably enjoys a more equable temperature than any other part of the British Islands, the average daily variability of temperature at Valentia Island being only 1.9° F., while that of the south of England is 2.7° F. The mean winter temperature at southern points in Ireland is as follows: Queenstown, 44.21° F.; Glengariff, 45.0° F.; Valentia, 44.9° F.; Blarney, 44.5° F. The mean annual temperature at these places, and at others practically within the same isothermal range, varies between 50° F. and 52° F.

The rainfall, which is the principal objection urged against this beautiful country, is less at Queenstown than at Ventnor or Torquay, both of which are much in demand as English winter health resorts. Glengariff, situated in a sheltered nook in Bantry Bay, on the southwest coast, has an exceptionally mild climate in the late winter and early spring months, and there is an unusually large amount of daily sunshine at these seasons of the year. The mean annual sunshine at this point is given by W. F. R. Phillips as 1,600 hours. There is every accommodation here for a short or a long stay, including full facilities for boating or fishing, and much to interest the geologist or botanist. The vegetation furnishes most convincing proof of the mildness of the climate. Tender fruit trees, which, during January, February, and March, in other places are carefully nursed under glass, here thrive without any such protection, and the most delicate flowering shrubs are met with wherever one walks. Suf-

ferers from bronchial or tuberculous affections derive great benefit and relief from a sojourn here, as Glengariff is protected from the cold winds of the north and east by a lofty range of mountains, the balmy winds which come from southerly points prevailing. It is reached by rail from Queenstown, where the transatlantic steamers stop, in one half day, the last ten miles of the journey being made in well appointed conveyances which run over fine roads through a most picturesque country from the railway terminus at Bantry. Another railway terminus at Macroom, thirty-six miles from Glengariff, affords a coach drive through some of the most wildly beautiful country in the world, but is more fatiguing to invalids.

Glengariff (the rough glen) so completely combines all the beauties of a sheltered sylvan nook and a charming island dotted sea lough, dominated by finely shaped and stern mountains, that it is quite impossible to do justice to its scenery. The usual hotel reproach, common to Irish hostelry, is scarcely merited here, although the American traveler who looks for onyx staircases and express elevators will have to content himself with the geraniums, fuchsias, and myrtles which flourish in the open air all the year round, and the incomparable view from the window of his plainly furnished bedroom. It is a veritable Madeira in Ireland. The potato planted early in February is ready for use in May. The luxuriant growth of the vegetable world strikingly proves the exceptional mildness of the climate, and conveys more than the most graphic description of this health restoring and charming district. Thermometrical observations are open in many ways to error, and may deceive the most careful observer, but it is not so with the vegetable world, it cannot so easily deceive. Plants reveal much more than mere temperature, for they derive their very existence and luxuriance by moisture or dryness, by wind or by calm, and by the character of the soil from which they take their growth.

The number of cases of consumption developing at Glengariff and the district surrounding it was shown by the Registrar General for Ireland to be only 11.8 per 1,000 of the mean population. It has been the unanimous experience of English and Irish physicians for many years that Glengariff has no equal anywhere as a winter and spring residence for pulmonary patients. It has three hotels, all exceedingly well managed and very comfortable. Of its scenic attractions Thackeray has said: "What sends picturesque tourists to the Rhine and Saxon Switzerland when at Glengariff there is a country the magnificence of which no pen can give an idea? Were such a bay lying on English shores it would be a world's wonder." Of Glengariff in the summer, so much is to be said in praise of the tangled pathways, the secret dells, the twilight groves of beauty, in this rough glen, that one would be suspected of Irish enthusiasm, who would give free rein to his Pegasus. Its situation alone, on one of the far famed and beautiful fiords of southwest Ireland, bewitches the senses. The keen and searching easterly winds which

sweep the coast of the Italian Riviera and the southern coast of England are happily wanting at Glengariff. Extremes of heat and cold are unknown, the mean annual range being about 15° F.

Glengariff harbor is surrounded by ranges of mountains which shut out all winds except those from the south, and even from this wind Garinish Island shelters part of the shore. The annual rainfall is about fifty inches on some 230 days, but the ground dries quickly owing to its hilly character. The bulk of the rain falls in the late summer, throughout the autumn, and in early winter, but in spring the climate is generally delightful.

Leaving Glengariff by coach, over the far famed Prince of Wales route, the sheltering range of mountains is crossed to Kenmare, which is the starting point of another delightful coach drive round the Kerry coast to Valentia Island, or for those who decline this trip, the journey may be continued on the same day to Killarney. Six miles from Glengariff the road crosses the water shed at 1,200 feet elevation and passes from Cork into Kerry, descending gradually into Kenmare, a pleasant little town in a pretty neighborhood, where a comfortable stop may be made. Those who decide upon the Kerry coast trip will find at Parknasilla another winter station similar to Glengariff, situated in a sheltered corner on the northern shore of Kenmare Bay. The combination of mountain, wood, and water gives a special advantage and charm to this locality. The early vegetation gives a reassuring proof of the equable and balmy character of the climate. Parknasilla is neither town nor village, but one of a little group of marine paradises on an inlet of the great sea lough known as Kenmare Bay. There is a good hotel with beautiful walks through its grounds, and the neighboring gentry usually allow liberal access to their domains. Bathing, boating, and channel as well as deep sea fishing, can be freely enjoyed. To chronic sufferers from respiratory diseases, and to convalescents, Parknasilla will prove a veritable haven of health and rest.

Continuing by coach from Parknasilla, Waterville is the next stopping place, and is another paradise for anglers. Although but a village of little more than a single street, the transportation company maintains a very comfortable hotel. From Waterville, the tour may be taken up next morning to Valentia Island, which has three principal attractions for the traveler; the lovely views from its northern end, the great cliffs at Bray Head at the southwestern extremity, and the interesting apparatus of the Anglo-American Telegraph. Five cables here converge.

From Valentia harbor to Cahirciveen is but three miles, and here the railroad is rejoined for a forty-eight mile ride to Killarney. A hurried tourist may make this circuit of the Waterville promontory in two days, but four days are better, and a week is all too short to drink in the beauties of a superb coast, lovely lakes, and bold mountain outlines, and to prepare one for entrance into the glorious region of the Killarney lakes.

The town of Killarney is a distinct disappointment. To use a Hibernicism, the attractions of Killarney are out of Killarney, among the lovely lakes and romantic hills which have made the name of Killarney far and wide a synonym for the most charming and captivating form that Nature has adopted. To describe it would bankrupt a poet's vocabulary. Dr. D. Edgar Flinn, a well-known writer on climatology, says that nowhere can a more delightful holiday be spent than here. Each day there are new scenes and new sights to be visited, and the eye never tires or grows weary. It is one continued glimpse of fairyland, a reign of enchantments. Its merits as a health resort have been completely overshadowed by its attractions for the pleasure tourist. It enjoys a very moderate and equable climate, being well sheltered and protected from cold winds. The rainfall is somewhat above the average, but this defect is common to all mountain resorts. Open air exercise can be indulged in winter and spring without any chill or discomfort. The mean temperature for the year is 50° F.; for January, 43.1° F.; for July, 58.7° F. Sweet Innisfallen Island in the lower lake will be a treat for the antiquarian.

The return journey from Killarney to Queenstown, by way of Cork, can be made in a few hours. Blarney, near Cork, is the site of the famous castle eloquent, and has a favored position on dry sandy soil. Its temperature is remarkably equable throughout the year, the mean for winter and spring being 43.5° F. and the mean annual 51° F. Blarney is brimful of interest to the visitor, and but a half hour's journey from Cork, a city of 98,000 inhabitants, on the pleasant waters of the river Lee which lead into Cork harbor and to Queenstown. A stay in Queenstown for a day or two with harbor excursions will be found pleasant and profitable while awaiting the transatlantic steamer.

Queenstown enjoys a magnificent situation and its climate is remarkably mild and equable and at the same time fairly dry and tonic. It is completely protected from north and east winds, and, owing to its hilly situation, when there is any rain it quickly flows off and the roads become dry. It has the least annual rainfall and the greatest annual sunshine of any spot in Ireland. The tour here outlined, from Queenstown to Queenstown, can be easily made in the sixteen days intervening between the arrival and departure of the fast steamers, and the traveler can be back in New York on the twenty-ninth day after leaving home, if he is so unfortunate as to be limited to one month's vacation.

But one who is not so pressed for time can find many other delightful spots in Ireland, and a visit to Dublin is well worth while on its own account, besides affording a convenient centre for excursions to Bray, "The Irish Brighton," and the beautiful county Wicklow. About seven miles from Wicklow town stands the national hospital for consumptives for Ireland; opened in 1896. Dublin has a mean annual temperature of 49.5° F.; January mean, 41.1° F.; July mean, 60.3° F. Its mean annual rainfall is 28.31 inches

distributed over 195 rainy days. Its relative humidity is 82.5 per cent. Vast improvements have been made in recent years in the water supply and drainage systems of Dublin and first class hotel accommodation can now be had. In fact, during the last ten years all Ireland has awakened to a realization of the hygienic requirements of visitors to her shores, and when the surroundings of her natural beauties are as carefully conserved as are those of continental resorts, the tide of travel and of fashion may be diverted. The railways of Ireland are no longer slow, uncertain, and dirty, and the railway companies have established, and cooperate with, a fine line of hotels where delay, shiftlessness, and dirt have been replaced by promptness, thrift, and cleanliness. In the smaller places, however, old ideas still prevail, and the pleasant country English inn will be regretfully missed by those who have seen much of the governing country. Still, no matter in what direction the traveler wends his way through the Emerald Isle he will find, apart from the scenery which bewitches by its infinite variety, an unrivalled field for archæological, legendary, historical, botanical, and geological research.

References.

- Flinn, D. Edgar. *Irish Health Resorts and Watering Places*, 2nd edition, 1895.
 Idem. *Journal of Balneology and Climatology*, i, 1897.
 Letters. Patrick. *Ibidem*, ii, 1898.
 Moore, John William. *Ibidem*, ii, 1898.
 Ward, C. S. *Ireland*, ii, London, 1901.
 Weber, F. P., and Hinsdale, Guy. *Climatology, Health Resorts, Cohen's System*, iii, 1901.
 Thackeray, William M. *The Irish Sketch Book of 1842*.
 Moore, Sir John W. *Climates and Baths of Great Britain*, ii. Macmillan & Co., 1902.
 42 EAST TWENTY-NINTH STREET.

ATYPICAL CLINICAL FEATURES OF APPENDICITIS.*

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The general subject of appendicitis is one that has attracted so much attention and the condition itself is so frequent in both its acute and chronic phases that any extended description of the symptoms of its more common varieties is quite unnecessary.

As a result of the continued observation of different clinicians in this country over a period of more than twenty years those cases of acute appendicitis which, if undisturbed, are almost certain to undergo resolution are sharply and usually accurately distinguished from those which, in the absence of surgical interference, are certain to result in abscess with subsequent local or spreading peritonitis.

Although any extended description of the symptoms of appendicitis as regularly manifested seems unnecessary, yet for the better comprehension of the different forms of atypical cases and as a standard for comparison, a rapid and brief review of the usual symptoms of acute catarrhal appendicitis, as well as those of acute suppurative appendicitis seems advisable.

In the acute catarrhal variety the patient is more

or less suddenly seized with severe cramp-like pains referred in the first few hours to the region of the umbilicus, equally marked on both sides, gradually becoming localized in the right lower quadrant of the abdomen. The pain is of a sharp, knife-like character and is intensified by deep respiration and by turning of the patient from one side to the other. It is referred regularly to the front of the abdomen, but not infrequently passes backward into the lumbar region—especially when the appendix is retrocæcal. The pain is regularly associated with local tenderness, or soreness, which usually persists for one or two days after the pain has ceased.

The invasion is also usually marked by nausea with or without one or more attacks of vomiting, the latter symptom rarely extending beyond the first twenty-four hours of the attack. There is usually constipation, occasionally diarrhœa.

There is slight constitutional disturbance. The temperature rarely rises above 102° and the pulse, after an initial acceleration, due to vomiting or excitement, usually remains below 80 and is of slightly increased tension.

Examination reveals diminished abdominal respiration and a point of tenderness over the site of the pain. In the same situation an area of resistance is elicited which is usually limited to a small segment of the lower right quadrant and may be situated in either the rectus or obliquus according to the position of the appendix. There is no change in the percussion note nor on auscultation is there any perceptible diminution of peristaltic activity of the intestine.

There is moderate prostration and the patient is confined to bed more on account of the pain than by reason of the constitutional disturbance.

These different symptoms are most pronounced during the first 24-48 hours of the attack. The vomiting ceases after the twelfth hour or at all events becomes less frequent and rarely occurs during the second day. Neither the pain nor the increased resistance shows a tendency to spread, or become more pronounced, and at or before the end of the third day both have greatly decreased or have entirely disappeared, and only slight tenderness persists. The temperature and pulse become normal as the pain ceases and recovery is complete before the expiration of a week.

In acute appendicitis with abscess formation the symptoms of the invasion are more pronounced than those which have just been described. The vomiting is more persistent and may continue during the second and third day. Locally, the area of muscular rigidity is more extensive and more pronounced. Usually at the end of the forty-eighth hour a sense of tumefaction may be felt, which in those cases in which the abscess becomes circumscribed is gradually replaced by a more sharply defined mass or tumor. In those less fortunate cases in which a spreading peritonitis develops, there is a gradual extension of both the pain and the rigidity to other parts of the abdomen with incipient and progressing distension.

In these cases of abscess formation the constitutional disturbance is much more pronounced than in the catarrhal variety. The temperature is usually not lower than 102°, the pulse is not generally below 90; both frequently are considerably higher.

* Read before the Harlem Medical Association on March 7, 1906.

At the end of the second or third day, the constitutional symptoms do not subside as in the catarrhal variety, but as a natural result of the absorption of the products of septic infection, they only persist to abate or cease after the evacuation of the abscess cavity has taken place.

In those cases where the septic process is not circumscribed, a spreading peritonitis results, of which the clinical features, together with those of the subsequent general peritonitis are so well known as to require no further mention.

The first group of acute atypical cases to which the writer wishes to direct attention is one in which a pathological condition, entirely and completely out of proportion to the accompanying symptoms, exists and in which the appendix is the site of abscess formation or even gangrene, while the clinical picture is one that is no more severe than that ordinarily observed in a catarrhal attack. It is needless to say that accurate diagnosis of such a serious condition is highly essential to its proper treatment, for the group is naturally one in which operative delay is most dangerous, and on the other hand prompt surgical interference most beneficial to the welfare of the patient.

CASES IN WHICH THE PULSE WAS EITHER NORMAL OR BUT SLIGHTLY INCREASED.

CASE I.—J. G., male, thirty-six years of age. Referred by Dr. Van Loan. There had been no previous attacks. Three days ago patient suffered from general epigastric pain in the morning and subsequently on eating lunch he became nauseated, with an attack of vomiting two hours later. The pain then became general, but was relieved the same evening after a satisfactory movement, following a dose of salts. On the following morning patient felt entirely well, but shortly after getting out of bed the pain recurred with increasing severity. Twenty-four hours later the pain was confined to the right iliac fossa, and was so much better that patient went out. This made the pain more severe, and patient remained on the lounge for the remainder of the day.

Examination. There is diffuse rigidity over the entire lower right quadrant with some tenderness, preventing satisfactory deep palpation. The rigidity extends for a short distance to the left of the median line. The pulse is 84, and has been no higher since the beginning of the attack. Temperature has varied between 99° and 101°; leucocytes, 13,000.

Operation. Abscess at the anterior and inferior part of the cæcum with spreading peritonitis. The appendix is retrocæcal and necrotic. Subsequent examination showed the bacillus coli communis. Uneventful recovery.

CASE II.—L. A., male, twenty-six years of age. He had suffered from previous attacks, the first attack during last summer, lasting three days, without vomiting, chill or fever. Three days ago his appetite became poor, and there were chilly sensations with one attack of vomiting and pain in the umbilical region. On the following day the pain decreased, and the patient was up and about toward evening. On the next day recurrence of pain, now in the right iliac fossa, with considerable prostration, with some tenderness.

Examination: Right side of the abdomen more rigid than the left, the rigidity being most marked in the lower right quadrant, where there is tenderness and a sense of a mass. The pulse is 92, temperature 102°, gradually decreasing to 78 and 99°, respectively, at the end of the forty-eighth hour, without subsidence of the local symptoms.

Operation. Appendix retrocæcal and gangrenous at the tip. The serous coat had not lost its glistening ap-

pearance, although in one place the pus could be seen shining through it. There was no odor. After carefully sponging out the cavity in which the appendix was imbedded, the wound was closed without drainage. The interior of the appendix was filled with foul pus, the mucous membrane black and all coats but the serous involved in the inflammatory process. Uninterrupted recovery without either pulse or temperature elevation.

CASE III.—Male, twenty-two years of age. There had been no previous attacks. On the day before I saw him there had been general malaise, followed in the afternoon by colicky abdominal pain, which shortly became localized in the right iliac fossa. The next morning the patient felt weaker and did not leave the bed.

Examination. There is increased rigidity and tenderness in the right lower quadrant, extending up to the level of the umbilicus. Temperature is 101°, the pulse between 80 and 84. Leucocytes, 15,000.

On operation, there was an abscess in the right iliac fossa, extending down to the brim of the pelvis. The appendix was gangrenous. The wound was closed with drainage. Pus contained bacillus coli communis.

CASE IV.—E. S., female, twenty-eight years of age. There had been no previous attacks. Five days before examination epigastric pain developed, shifting the following day to the right iliac fossa. There were one or two attacks of vomiting and some tenderness.

On examination, there was considerable rigidity and tenderness in the entire right lower quadrant. A mass, the size of a lemon, could be felt. Temperature 100°, pulse, 72. Leucocytes, 18,000.

Operation. Retrocæcal abscess, with the appendix curled up and bent upon itself at a right angle. Pulse not over 80 after operation. Wound closed with drainage. Pus contained bacillus coli communis. Recovery.

CASE V.—Female, twenty years of age. Referred by Dr. Law. She had had previous attacks, a slight one seven months ago; a second attack, similar to the present one, four months ago. The day before I saw her, patient had an attack of nausea, with vomiting and pain in the right iliac fossa. Prostration. There was also marked tenderness.

Examination. There is slight tenderness and rigidity in the right iliac fossa. The rigidity is diffuse and occupies the entire lower right quadrant. It is not, however, intense. Temperature between 100° and 101°, the pulse around 70, except just prior to etherization. Leucocytes is 20,000.

Operation. The appendix was found enveloped by omentum and near the anterior abdominal wall. It was very thick, congested, friable, and almost gangrenous. Within, the mucous membrane was black, and there was a very offensive odor. The wound was closed with drainage. Prompt recovery, the subsequent discharge being scarcely purulent.

Microscopical examination showed intense acute purulent inflammation of all coats, the mucous membrane being lacking in places. Bacteriological examination showed the presence of *Bacillus coli communis*.

CASE VI.—M. J., male, thirty-five years of age. Patient had had previous attacks, one four years ago, confining him to bed for five days. Two days before I saw him pain appeared in both flanks, being more marked on the right side. There were no constitutional symptoms and no elevation of pulse. The bowels had moved every day.

On examination, there was considerable tenderness in the right iliac fossa, but no mass. The rigidity was slight, but occupied the entire lower right quadrant, being more marked over the lower outer external oblique than the rectus.

Operation. The appendix was found along the posterior and outer wall of the cæcum. It was four inches long, enlarged, congested, and near its cæcal attach-

ment almost gangrenous and on the point of perforation. Wound closed with drainage.

Considerable reaction after operation; otherwise prompt convalescence.

CASE VII.—B. K., female, thirty-eight years of age. No previous attacks. Nine days before operation, during menstruation, patient suffered from stabbing pains in the right iliac fossa, which she thought due to wet feet, and the sudden cessation of the menstrual flow. Seven days later the pain became worse, with nausea, loss of appetite and tenderness at the site of the pain.

Examination. There was moderate rigidity and tenderness in the right iliac fossa. The temperature was 101° , pulse 88, and leucocytes 8,000. At the end of the fourth day both pulse and temperature were normal.

Operation. The appendix was long, retrocaecal, and near its tip was a cavity containing about three ounces of pus. Wound closed with drainage. There was no post operative reaction.

Microscopical examination showed an acute purulent inflammation of all the layers of the organ.

CASE VIII.—H. U., male, twenty-five years of age. No previous attacks. Eight days before I saw patient, after an unusual diet, appeared general abdominal pain. On the following day, after a substantial luncheon, there was repeated vomiting. On the day after the symptoms had so much improved that the patient took a walk, the pain shortly after returned and became localized in the right iliac fossa, where it had remained ever since.

On examination a mass of the size of an orange was felt in the right iliac fossa. The temperature varied, between 100° and 102° , the pulse between 64 and 72. Leucocytes, 14,000.

Operation. There was one pint of pus around the base of the caecum. No appendix was found. Subsequent bacteriological examination showed streptococci.

It is of interest in connection with this group of cases to consider the indications for operative interference, and to determine how long a time of observation, if any, is necessary before a proper decision can be reached. In the acute typical variety the sharp character of the invasion at times accompanied by a chill, vomiting, repeated and with no tendency to abate, a sudden rise of temperature to 103° , or even higher, a pulse of 100 increasing in frequency from hour to hour, pain so severe as scarcely to be endured, the presence of marked rigidity and tenderness, and a general condition and appearance of the patient that betokens septic absorption, are all valuable indications occurring individually or together, for immediate operation without delay. Of all these general symptoms that one upon which the greatest reliance can be placed is a rapid pulse increasing in frequency from hour to hour. Yet, notwithstanding the great value of this symptom, it must be admitted that occasionally the pulse remains low and may not become more frequent for a number of days. Is there then any other symptom that, in the presence of a pulse either normal or but slightly increased in frequency, indicates the serious character of the lesion and the need for prompt operative interference? In the cases, the histories of which have just been cited, operation was prompted by the diffuse rigidity extending over the entire lower right quadrant. Such rigidity is not always intense; in fact, it may be so slightly developed as to require considerable care to determine its presence, but in the writer's general experience with the infectious group of cases, it may always be elicited, involving at least the lower right quad-

rant, and gradually shading off without any definite line of demarcation to the upper part of the abdomen or to the opposite rectus muscle. It has been demonstrated without exception to be the most reliable and trustworthy guide in determining the desirability of immediate operation, for, in every instance where this symptom has existed, operation has disclosed a suppurative or gangrenous condition of the appendix of such a character that delay would have greatly jeopardized the chances of the patient's recovery.

Of great corroborative value is a general increase in leucocytes, especially of the polynuclear variety. Circumstances are such, however, that in many instances a leucocyte count is impossible or subject to inaccuracy, and necessarily the diagnosis must often be made, and the need of operation recognized without its assistance.

Should the case be seen for the first time several days after invasion, and, in the meantime, the infection have become circumscribed, the rigidity may have so far subsided as to disclose a mass or tumor, which almost always indicates pus. The writer wishes to emphasize, however, the fact, that in no case of diffuse rigidity is operative delay to be counselled to wait for the appearance of a possible mass, inasmuch as Nature is not always so kindly disposed, and the infection frequently, if not relieved, causes a spreading, and then a general peritonitis with usually fatal results.

Although the presence of a mass in acute appendicitis indicates pus, the exception seems to be well demonstrated in the following two cases.

ACUTE CASES WITH PALPABLE MASS WITHOUT AN ABSCESS.

CASE IX.—M. G., twenty-five years of age, male. Referred by Dr. Constable. No previous attacks. One week before operation patient developed an attack of acute catarrhal appendicitis, associated with nausea, vomiting and pain in the right iliac fossa. These symptoms subsided in several days, but the pain and some prostration recurred when the patient endeavored to walk around.

Examination. There was an elastic tender mass in the right iliac fossa about the size of a small lemon, also a slight rigidity of the overlying muscle. Temperature 101° to 102° , pulse between 90 and 100.

Operation. The mass was found to consist of hyperthrophied omentum, surrounding an appendix which was enlarged, deeply congested, friable, and thickened. Drainage with partial closure. Prompt recovery without reaction. Microscopical examination showed all the coats of the appendix to be congested and infiltrated with leucocytes.

CASE X.—H. F. B., twenty-five years of age, male. Referred by Dr. Victoria. No previous attacks. Six months ago, patient had an operation for the radical cure of a right oblique inguinal hernia, from which he recovered without complication. Shortly after his discharge from the hospital, he noticed occasional shooting pain in the right inguinal region. One month ago, there was sharp pain in the lower right side, extending down to the testicle. This persisted for two days, and at times was so severe as to double up the patient. There was no vomiting or constipation. The temperature was between 101° and 102° and the pulse between 100 and 110. Examination at that time (by Dr. Victoria) showed the presence of a mass in the right iliac fossa, and operation was advised but declined. The symptoms gradually subsided, and did not recur until the day before admission.

Examination then showed a mass, the size of a lemon in the right iliac fossa with some tenderness and rigidity of the overlying muscle. The temperature was 102°, the pulse 120, diminishing to 88 on the following day. Leucocytes count was 9,000.

Operation. The mass curled up upon itself and the size of a large lemon was found adherent to the parietal peritoneum. These adhesions were soft and easily separable permitting the delivery of the mass through the abdominal incision. It was found to consist entirely of the appendix and its mesentery, the former being inflamed, and the latter being so much thickened in all its dimensions as to have produced the mass.

Cigarette drain, and closure with prompt recovery.

ACUTE CASES SUBSIDING WITH PERSISTENCE OF PUS.

CASE XI.—G. W., seventeen years of age, male. Previous attacks. First attack, two years ago, with pain and vomiting. Second attack, six weeks ago, with pain, nausea, and vomiting, the pain localizing in the right iliac fossa at the end of the third day, all symptoms disappearing at the end of the week. Two weeks ago, third attack, with vomiting and pain lasting for three days. Since then complete recovery took place, and patient has been up and about. Operation was desired to prevent subsequent attacks.

Examination. Right iliac fossa is negative save for slight tenderness on pressure. Temperature under 100°, pulse between 70 and 80. Leucocytes count 16,000.

Operation was performed two days after admission. The appendix which pointed into the pelvis was distended with pus, and near its tip on the point of perforation. There was also a small abscess at the ileocaecal junction. Drainage. Recovery without any reaction. Subsequent examination showed bacilli coli communis.

CASE XII.—E. H., male, nineteen years of age. Previous attacks. Seven weeks ago, patient had a chill followed by fever, and the appearance of pain in the right iliac fossa. The symptoms subsided in four days, while the present attack beginning two days ago was milder. On admission to the hospital, there was only slight sensitiveness with localized resistance one inch below the usual situation of the appendix. Temperature was 99°, the pulse at no time higher than 60. For five days prior to the operation, the temperature was normal. Leucocytes count varied between 11,000 and 14,000. Two days before operation all local tenderness and rigidity had disappeared.

Operation. The appendix pointed downward and inward being attached to the lateral wall of the pelvis. On separating the adhesions an abscess containing half an ounce of pus and overlying the vascular sheath was opened and evacuated. Small gauze drain. Prompt recovery. Abscess contained bacilli coli communis.

CASE XIII.—T. D., male, twelve years of age. No previous attacks. Three days before operation there was a sudden onset of pain about the umbilicus. The pain was not severe and was first on one side and then on the other until the last twenty-four hours, during which time it has been referred to the right iliac fossa. Bowels constipated, moving to catharsis.

On examination there is slight rigidity and tenderness over the appendix region. No mass can be felt. Temperature, on admission, 100°, decreasing to normal. Pulse 114, decreasing to 78. Leucocytes count 15,000.

Operation was performed two days after admission. The appendix was found imbedded in adherent omentum and small intestine was thickened and congested. Near its base was an abscess containing about two drachms of pus. Drainage. Recovery with some reaction. Examination showed streptococci.

CASE XIV.—L. P. B., female, sixteen years of age. Referred by Dr. Bassett. No previous attacks. Two days before admission appeared nausea with loss of appetite and an attack of vomiting at night. On the fol-

lowing day, there was severe epigastric pain shifting quickly into the right iliac fossa. There was no more vomiting, and after twenty-four hours the pain had also ceased.

On admission, there was very slight rigidity over the usual site of the appendix with a single point of tenderness. The temperature was 100°, pulse 120 (after a journey of thirty miles), both decreasing rapidly to normal on the second day. Leucocytes count 13,000.

Operation performed on the sixth day. Appendix was retrocaecal, very long, and near its tip over the kidney there was a small collection of pus. The entire appendix was very firmly adherent, indicating trouble of long standing though without symptoms. Drainage. Recovery with slight reaction.

CASE XV.—A. S., male, twelve years of age. No previous attacks. Four days before admission, while walking, patient was seized with abdominal pain more marked on the left side, but shortly after moving over to the right lower quadrant. Although the pain gradually decreased, the patient remained in bed.

On examination, there was moderate tenderness and rigidity in the right iliac fossa. Temperature 101°, pulse 108, both reaching normal on the third day, when only the tenderness persisted. No mass was felt at any time.

Operation five days after admission. The appendix was found pointing downward and inward into the pelvis. It was adherent and swollen both at its centre and tip. In the former situation the organ was black and on the point of perforation. There was no odor. Careful cleansing of the space from which the appendix had been enucleated was done with complete closure. prompt recovery followed without reaction. Subsequent microscopical examination showed a condition of acute purulent inflammation of all the coats of the appendix with necrosis in the mentioned area.

CASE XVI.—J. G., twenty-six years of age, male. No previous attacks. Ten days before operation patient was seized with general abdominal pain of a boring character, and three days later, after temporary cessation, the pain recurred, and became so severe that the patient was obliged to stop work. During the entire time the pain had remained about the umbilicus.

On examination, there was very slight sensitiveness only in the right iliac fossa. There was no elevation of pulse, temperature, and leucocytes count was 8,000.

Operation. The appendix, imbedded in adhesions, ran forward and downward toward the pelvic brim. Its tip was firmly adherent to the wall of the iliac fossa and in its separation a small amount of pus was evacuated which had been shut off from the peritoneal cavity by adherent omentum and small intestine. In its course, the appendix made a sharp angle upon itself. The wound was closed with drainage.

Sharp reaction followed, temperature rising to 103°, the pulse remaining between 80 and 90; recovery. Microscopical examination showed an acute inflammation involving all layers.

This series of cases is atypical in that the clinical course prior to operation indicated a catarrhal attack. In no case, even under an anæsthetic could a mass be felt, and the constitutional symptoms, the local tenderness and rigidity, at no time diffuse, had all completely subsided before the operation was performed.

In at least four of the 6 cases there was an increase in leucocytosis, in itself an indication of pus. Notwithstanding the mild character of the clinical course, *Bacillus coli communis* was found in three and the streptococcus in one of these cases. In two no culture was taken.

These cases are also of interest in establishing the

fact that resolution, certainly in so far as indicated by the subsidence of the local symptoms is not limited to the catarrhal variety. It is also not at all unlikely that, in the absence of operation, resolution in the sense of the gradual absorption of the abscess material would have taken place. In fact, the third case of the chronic variety presented at the time of operation a considerable amount of cheesy material, surrounding the appendix, evidently the remains of a prior abscess collection. Resolution in the sense of the return of the appendix to its normal condition would, however, in these cases have been impossible, and operation was doubly fortunate in not only removing an organ that would have remained permanently damaged, but also in relieving a condition that might at any time have resulted in a spreading peritonitis, had the pus for any reason broken through the barrier of the adhesions forming the abscess wall.

In addition, it is well to call attention to the character of the muscular rigidity in these cases. The value of diffuse muscular rigidity in the diagnosis and treatment of acute infectious appendicitis has already been emphasized. These cases show, however, that the presence of pus is not necessarily associated with diffuse rigidity, for in none of the cases under discussion was the rigidity at any time more than local. This leads to the conclusion that the absence of diffuse rigidity does not necessarily exclude a purulent process.

Worthy of mention also is the fact that small abscesses can exist without the formation of a palpable mass, hence in the technique of all operations, whether in the interval (as demonstrated by Cases I and II), or shortly after the subsidence of an acute attack, a careful search should be made in the separation of the appendix from its adhesions (a separation conducted, if possible, in full sight of the surgeon's eye) for any small collection of pus, for the contents of such an abscess might, if undetected, be easily smeared over adjacent coils of intestine and readily prove the starting point of a fatal spreading peritonitis if, in the supposed absence of an abscess, the abdominal wall were, as is usual in interval cases, completely closed without drainage.

ACUTE SUPPURATIVE APPENDICITIS, SIMULATING INTESTINAL OBSTRUCTION.

CASE XVII.—G. B., fifty-two years of age. No previous attacks. One week before operation, patient always having been in excellent health, an attack of sudden sharp pain, sometimes cramplike, appeared in the lower part of the abdomen. It was not referred to any particular region, and was equally pronounced on both sides. At the same time, there was frequent vomiting, which became fecal on the third day, and continued so since. The bowels had not moved since the second day of the attack. The patient could not tell whether, during that time, any flatus had passed or not.

On examination at admission there was found moderate general distension of the entire abdomen. There was no asymmetry of respiration, but a general rigidity which was slightly more marked on the right side, also tenderness in the median line just above the symphysis pubis. In this latter situation, extending more to the left than to the right, was a firm elastic mass which was not changed by the emptying of the bladder. The temperature was 102°, the pulse 120 and of good quality. The patient looks sick but not especially septic. A diagnosis of obstruction from scirrhus carcinoma of

the large intestine was made. Rectal examination proved negative.

Operation. Median incision above symphysis pubis. Several abscesses were found beneath the parietal peritonæum extending into the pelvis. The intestine was angry and distended. Through an intermuscular opening, the gangrenous appendix was removed. General irrigation and drainage through both orifices.

The progress of the disease was unchecked and patient died in forty-eight hours without relief from the symptoms.

CASE XVIII.—J. P., male, forty-five years of age. Patient says that some years ago he had an attack of vomiting with constipation, but can give no detailed account of either the course or the symptoms of the difficulty. About four days before admission patient was seized with general abdominal pain. The bowels became very constipated, and he began to vomit. Both symptoms continued, and the abdomen became distended. He was sent to the hospital with a diagnosis of acute obstruction.

Examination. The patient was very corpulent. The abdomen was generally distended and prominent, and everywhere rigid. There was tenderness in both iliac fossæ, also dullness in both flanks with marked tympany elsewhere. Peristalsis was diminished. Temperature was 101°, pulse 80, and leucocyte count 19,000. Immediate operation was advised, but refused, the patient declaring that he had had a similar attack some years previously from which he had recovered. The pain, vomiting, and distension increased, however, and thirty-six hours after admission patient consented to operation. During this time repeated enemas had resulted in the evacuation of small amounts of gas, while the abdominal symptoms seemed to be slightly more marked on the right than on the left side.

Operation. A condition of general peritonitis from a gangrenous appendix was found, and the organ removed. General abdominal irrigation. Coils of small intestine greatly distended and covered with fibrinous exudate. Drainage.

The patient reacted well from the operation, but died forty-eight hours later with symptoms of increasing distension and persistent vomiting.

CASE XIX.—W. N., male, fifty-seven years of age. Referred by Dr. Wallin. Previous attacks. For many years past, patient has had occasional attacks of slight distress after eating, with subsequent pain or cramps in the pit of the stomach, usually terminating in an attack of purging or vomiting. These attacks never confined the patient to bed, and were separated by an interval of from one to two years, the last attack occurring six months before the present. Four days before his admission, after a substantial dinner, severe abdominal pain developed in the middle of the night. It was general, of a dull heavy character, and of increasing intensity. Patient worked as usual the next day, but that night the pain became worse and there was one attack of vomiting. For the succeeding three days he remained in bed, the pain continuing. He has had for the past four days no movement of the bowels or even passage of flatus, and there has been gradually increasing distention.

Examination. The abdomen was much distended, everywhere tympanitic and rigid. Peristaltic sounds were heard most actively on the right side, but are absent on the left. Pulse varied between 72 and 86, the temperature between 99° and 100°. No passage of flatus or fecal material after enema.

Operation. Under ether, a small immobile mass was felt in the median line just above the symphysis pubis. Incision in the median line below the umbilicus. There was a small amount of free purulent fluid in the general peritoneal cavity, and the intestine was greatly distended and covered with fibrine. In the hollow of the

sacrum the appendix was found in a gangrenous condition and enveloped in an abscess cavity containing several ounces of foul pus. The appendix was removed, and the abscess cavity carefully sponged out with irrigation of the lower part of the abdomen. Drainage.

There was no reaction. The pulse remained in the eighties, the bowels moved satisfactorily during the first day after operation, and recovery was complicated only by the development of a fecal fistula which closed promptly during the fourth week.

These three cases illustrate well the similarity between subacute obstruction and spreading septic peritonitis. In the former complete constipation is the rule, in the latter careful inquiry will usually elicit the fact that occasionally small quantities of flatus pass from the bowel. Difficulty in diagnosis is most likely to be experienced where the case comes under the observation of the surgeon for the first time some days after the invasion and when, owing to both the neglect and ignorance of the patient, no previous satisfactory history can be obtained. In children and young adults error in diagnosis is infrequent. In patients over fifty, when appendicitis is uncommon, confusion is most probable, for under these conditions, scirrhus carcinoma of the colon and sigmoid is not unusual, and obstruction from this cause may, in the beginning, be incomplete. Moreover, such patients are frequently corpulent, and satisfactory examination of the abdomen is then more difficult.

It is in this group of cases that auscultation may prove of some assistance, for, in spreading peritonitis, it is usually greatly diminished, if not absent, while in obstruction from obturation, it is not only present, but frequently exaggerated.

The next case is one in which an acute gangrenous appendicitis simulated an acute ascending infection of the right ureter and kidney. This latter diagnosis was possible owing to the location of the pain, the history of repeated attacks of gonorrhœa, and the presence of a gleet. It is the only instance in my experience in which such acute exquisite tenderness has been elicited over the kidney posteriorly.

(To be concluded.)

ARTERIOSCLEROSIS: ITS RELATION TO DISEASE OF THE NERVOUS SYSTEM AND TO DISORDER OF ITS FUNCTION.*

By JOSEPH COLLINS, M. D.,

NEW YORK.

(Concluded from page 1232.)

Perhaps of more importance than the blood pressure in arteriosclerosis is the information to be got from palpation of the arteries and from examination of the heart. In every instance the educated finger is able to detect changes in the artery, which are characteristic of the disease. Of course, when the disease is well advanced the bloodvessels stand out like whipcords and are lengthened and tortuous. No one can thus possibly mistake the changes in the vessel wall, but in the early stages it requires not a little experience to be able to say with anything

like positiveness that changes have begun. For many years I have taken sphymographic tracings of patients with arteriosclerosis, using principally the Marey and the Verdin apparatus, and I have not been able to satisfy myself that reliable information concerning the early manifestation of arteriosclerosis is to be obtained from their use.

The changes in the heart sounds, the muffling of the first sound, the click of the second, the hypertrophy of the left ventricle, are all very variable manifestations of this disease. When they exist they are objective phenomena of importance. When they are absent, however, they do not signify that the vessels may not be diseased.

The following table shows the registration of blood pressure in 225 successive cases of arteriosclerosis:

| WITH THE COOK RIVI ROCI APPARATUS. | | | |
|--|----------------------|--|----------------|
| 200 | 135 | | 220 |
| 180 | 180 | | 175 |
| 140 | 165 | | 120 |
| 208 R.; 122 L. | 230 | | 140 |
| 190 | 125 | | 190 R.; 170 L. |
| 210 | 155 | | 145 |
| 170 | 195 | | 215 |
| 150 | 160 | | 250 |
| 175 | 192 | | 140 |
| 220 | 135 | | 145 |
| 170 | 140 | | 140 |
| 140 | 195 | | 145 |
| 175 | 240 | | 210 |
| 220 | 190-5 L.; 195-200 R. | | 170 |
| 140 | 165 | | 155 |
| 140 | 160 | | 140 |
| 140 | 160 | | 190 |
| 170 | 160 L.; 155 R. | | 175 |
| 170 | 165 L.; 180 R. | | 135 |
| 140 | 260 | | 265 |
| 165 | 195 | | 212 |
| 200 | 170 | | 155 |
| 200 | 185 | | 165 |
| 190-200 | 205 | | 165 |
| 175 | 205 | | 155 |
| 150 | 240 | | 215 R.; 202 L. |
| 155 | 220 | | 175 R.; 185 L. |
| 160 | 182 | | 140 |
| 185 | 245 | | 175 |
| 215 | 165 | | 140 |
| 165 R.; 160 L. | 210 | | 150 |
| 260 | 190 | | 165 |
| 200 | 185 | | 160 |
| 265 | 205 | | 115 |
| 210 | 200 | | |
| 200 R.; 185 L. | 206 | | |
| 185 | 185 | | |
| 180 | 235 | | |
| 275 | 175 | | |
| 245 | 140 | | |
| 175 | 200 | | |
| WITH THE STANTON OR JANEWAY APPARATUS. | | | |
| 140 | 140 | | 140 |
| 145 | 160 | | 235 |
| 300+ | 180 | | 160 |
| 155 | 145 R.; 150 L. | | 160 |
| 145 | 165 | | 150 |
| 155 | 210 | | 150 |
| 155 | 210 | | 130 |
| 150 | 135 | | 210 |
| 190 | 165 | | 210 |
| 235 | 165 | | 180 |
| 165 | 145 | | 145 |
| 150 | 150 | | 185 |
| 205 | 140 | | 175 |
| 140 | 155 | | 185 |
| 155 | 140 | | 140 |
| 175—2 sides. | 180 | | 350 |
| 145 | 140 | | 190 |
| 170 | 140 | | 125 |
| 145 | 165 | | 170 |
| 130 | 145 | | 165 |
| 175 | 150 | | 180 |
| 150 | 165 | | 210 |
| 165 | 228 | | 145 |
| 160 | 180 | | 160 |
| 180 | 180 | | 240 |
| 140 | 145 | | |
| 150 | 165 | | 110 |
| 260 | 195 | | |
| 225 | 175 | | 225 |
| 145 | 160 | | |
| 170 | 145 | | |
| 210 | 145 | | |
| 170 | 145 | | |
| 230 | 160 R.; 150 L. | | |
| 150 R.; 135 L. | 175 | | |
| 140 | 170 | | |
| 215 | 175 | | |
| 175 | 145 | | |
| 145 | 185 | | |
| 175 | 165 | | |
| 275 | 135 | | |

* The Jerome Cochrane Lecture to the Medical Association of the State of Alabama, April 18, 1906.

ÆTIOLOGY.—There are many causes of arteriosclerosis. Three particularly are of the greatest importance. These are: (1) Heredity, (2) auto-intoxication, and (3) infections. Nothing is better established in medicine to-day than that one of the most important factors in the maintenance of health is adequate ancestral endowment of vitality. Few diseases illustrate the truth of this better than the one under discussion. An individual whose ancestors died of disease of the bloodvessels is much less able to experience the ordinary causes of arteriosclerosis and still remain healthy than one who has no such heredity. an excellent example of the part played by heredity in arteriosclerosis is furnished by the following case:

CASE.—A clergyman, fifty-six years old, noticed in his fiftieth year that he had palpitation of the heart on comparatively small effort, some dyspnoea, giddiness, and sensations of exhaustion which came and went without apparent relationship to work. Two or three years after the first indications of disease, vertigo, unsteadiness of gait, weakness of the legs, rush of blood to the head, drowsiness during the day, dysomnia, forgetfulness, and impaired physical and mental inertia were added to the clinical picture. Physical examination revealed profound generalized arteriosclerosis. Inquiry into his family history showed that his grandfather, his father, two uncles, four sisters, and a brother had died, or had been afflicted with disease of the arteries, and that they had developed the disease at different periods of life varying from forty-two to seventy years of age.

This leads to a discussion of the time of life at which arteriosclerosis develops. Formerly it was maintained that it was a normal accompaniment of senility; few maintain that position to-day. Arteries grow old just as all other tissues grow old, and in doing so they lose those physical qualities which characterize them in their youth. Loss of elasticity is one of these qualities, impaired distensibility is another, and one of the manifestations of inadequate functioning of the vaso vasorum which comes with old age is fatty degeneration of the parts dependent upon them for nutrition. But these changes in reality do not constitute the disease arteriosclerosis. Moreover, when they do develop analogous changes go on in all the other tissues of the body, including the heart, which obviate demands made upon vessels thus altered. In other words, such vessels are adequate. In the disease, arteriosclerosis, the pathological conditions are entirely different.

Arteriosclerosis is a disease of maturity, but it cannot be stated too emphatically that it is of common occurrence before forty. One of the most difficult things that we physicians have to do is to dislodge from our minds beliefs that we acquired in our student days. One of these is that arteriosclerosis does not occur in the young. I have seen an advanced degree of arteriosclerosis in a boy, thirteen years old, afflicted with Hodgkin's disease. There is ample evidence to show that it may develop before puberty (cf. Anderson, *American Medicine*, March 12, 1904; Thayer, *American Journal of Medical Sciences*, 1894, p. 419). That its occurrence in youth is not a new contention, however, may be seen by reading de

Mussy's article in the *Archives générales de médecine*, 1872. My experience in regard to the age when the disease develops does not, however, lead me to agree with Simnitzky (*Zeitschrift für Heilkunde*, xxiv), who says that in twenty-seven per cent. of all cases under twenty-five years he found changes in the vessels indicating arteriosclerosis. It does show that in 800 consecutive cases in which the diagnosis was made, 228 were under forty. The fifth decade of life, the period of full maturity, is the arteriosclerotic age.

It apparently attacks males much more frequently than females, and this for adequate reasons. The latter are not exposed to the factors that facilitate the development, even though they do not cause the disease, such as the excessive use of alcohol and tobacco, and strife, overwork, and disappointments. It is a common disease in women, however, as my table of statistics shows. It occurred twice as frequently in males as in females. It should be emphasized that the vast majority of my patients were wage earners, and that the women did ordinarily similar work to the men. I do not believe that occupation except as it exposes to such injurious influences as lead, has much to do with causing the disease. It is a disease not uncommonly met in quiet women who encounter only the *Sturm und Drang* of social and family life. Some years ago I was impressed with the frequency with which we saw arterial degeneration in female subjects that came to autopsy at the City Hospital. McCrone (*Glasgow Medical Journal*, xxxviii, p. 94, 1892) had previously called attention to the fact that the post mortem records of the Royal Infirmary of Glasgow showed that about twenty per cent. of the female subjects and seventeen per cent. of the male had degenerated arteries.

The all important agencies in the causation of arteriosclerosis are: (1) Disorder of metabolism represented by indigestion, fermentation, and constipation at one end of the pole, and so called rheumatism and gout at the other; and (2) syphilis and other specific infections. In upwards of three fourths of my cases there is a history either of syphilis, chronic indigestion and constipation, gout, or some manifestation of the arthritic diathesis. In my experience a history of syphilis was found in thirteen per cent., and the time of its occurrence was remote in the vast majority of instances. In other words, syphilitic arteriosclerosis is ordinarily a parasymphilitic manifestation in contradistinction to syphilitic endarteritis, which may lead to arteriosclerosis, and which is a manifestation of exudative syphilis, occurring comparatively early in the course of that disease. In some instances there is a history of all three of the most important factors in the production of the disease; the individual who has had syphilis has also suffered from gout and chronic indigestion.

In my experience intemperate use of alcohol is not a very important ætiological factor. In only eighty cases, ten per cent., was there a history of excess. At the City Hospital, where we have a large number of autopsies in individuals who have been pronouncedly alcoholic, we rarely find any considerable degree of arteriosclerosis,

while the various stages of degeneration of the viscera, fatty and connective tissue degeneration, are the commonest lesions. These figures are much smaller than those of some European writers, for instance, Edgren (*Die Arteriosklerose*, Leipzig, 1898), who gives twenty-five per cent.; de Mussy, on the other hand, found only twenty-five cases out of one hundred and sixty with a marked alcoholic history. On the other hand, it harmonizes with the conclusions of Cabot (*Journal of the American Medical Association*, September 17, 1904), who says that only six per cent. of 283 profound chronic alcoholics showed evidences of arteriosclerosis, and out of forty-five cases of arteriosclerosis taken one after the other, only thirteen per cent. gave any history of alcoholism. I am not at all certain, however, that such statement puts the question of the relation of arteriosclerosis to the ingestion of alcohol in the right light.

Many of my patients were consumers of alcohol in moderation (272 out of 800, i. e., thirty-four per cent.). Moderation is a most indefinite term except when applied individually. An indulgence in alcohol most moderate for one man is a bacchanalian orgy for another. I believe that the habitual use of alcoholic liquors contributes indirectly to the causation of arteriosclerosis, i. e., they contribute to it by causing such disturbances in digestion as lead to or facilitate putrefactive changes in the gastrointestinal tract, the immediate effect of which on absorption is to cause such variation in blood pressure as leads to arteriosclerosis. This is by no means a conclusion based entirely on theory, for it has been shown that more fermentation and putrefaction goes on in the intestine when alcohol is taken in diluted forms, such as beers, wine, than when it is taken in large quantities and concentrated form.

It is widely believed that there is a relationship between the excessive use of tobacco and the development of arteriosclerosis, and to this teaching I subscribe, particularly because of experimental proof of it. It is a very difficult matter to contribute to statistically, principally because of our inability to say positively what constitutes an excessive use of tobacco. Tobacco causes an elevation of blood pressure, and in some persons its use causes chronic indigestion. It must therefore be considered a competent exciting cause of the disease. In nearly every instance in which there is a history of the excessive use of tobacco some other cause has likewise existed.

An enormous literature attests that arteriosclerosis may result from lead poisoning just as gout and nephritis may. Admitting this, it is only necessary to add that it is the most uncommon of all causes and has attention paid to it out of all proportion to its merit. For instance, of the 400 autopsies reported by Brooks there were only five in which lead poisoning was suspected, or shown to have existed. Lead poisoning, except from accident, will probably soon have only a historic interest for physicians.

Nearly every disease that has a reputed ætiological relationship to alcohol, tobacco, and other social luxuries, has also been attributed to sexual

excesses. The latest writer to refer arteriosclerosis to this cause is Klemperer (*Einige Erfahrungen über Aetiologie und Therapie der Arteriosklerose, Die Therapie der Gegenwart*, November, 1905), who is of the opinion that the importance of sexual intemperance in the ætiology of arteriosclerosis has been underestimated in the past. Sexual activity increases the work of the heart and raises the blood pressure, involving at the same time an enormous stimulation of all the vascular nerves. Immoderate sexual indulgence not infrequently induces direct weakening of the heart, in his experience, and it often participates in the causation of arteriosclerosis. He admits that the contention of congressus interruptus leading to arteriosclerosis may appear exaggerated, but considers his observations as conclusive. Strong stimulations of the central nervous system not only increase the blood pressure by more work done by the heart, but lead independently to contractions of the vascular walls, and therefore to an early wear and tear of the same. To all of which it may be said if so called sexual excesses have any influence at all, it is very slight and is mentioned here only to deprecate the attention that has been given it. As a matter of fact, arteriosclerosis is not nearly so common in those who swoon drunken from pleasure's nipple, as is commonly supposed.

The relation of the disease to physical and intellectual work and to the mode of life is one that is worthy of discussion. The disease is not more common in those who do hard bodily work than in those who do not, although severe physical training and indulgence in feats of strength may facilitate or excite the disease. I am inclined to think that hard bodily work is not an ætiological factor of importance, unless constantly repeated feats of strength and endurance be put under this caption. Individuals whose occupation cause repeated or protracted elevation of blood pressure and accelerated heart action, are frequently found to suffer from arteriosclerosis. On the other hand, sedentary work, protracted and severe intellectual work, emotional perturbation, anxiety, grief, and similar harassments, either directly acting through their capacity to disorder blood pressure, or indirectly by causing disturbance of digestion and metabolism, are important factors in the causation of the disease. But perhaps it is the mode of life that is the most important of all indirect causes. The person who habitually over eats, and especially of foods that tend to facilitate fermentation and putrefaction, the person who thus daily or perhaps several times daily brings about an over repletion of the arteries and who does little in the way of exercise to promote oxidation, katabolism, and elimination, is the person whose bloodvessels are most liable to become sclerosed, and especially if he encounters one of the common exciting causes such as the infections. It is this over stimulation or over functioning that must account for the relative frequency of visceral arterial sclerosis in persons who over eat and under exercise.

That arteriosclerosis follows in the wake of acute infectious diseases is beyond question. Incontestible evidence has been furnished by

Landouzy and Siredey (*Revue de médecine*, Paris, v, p. 843, 1885; *Gazette des hôpitaux*, Paris, vii, pp. 804-919, 1887), Thoma, *Verhandlungen des XIII. Congresses für innere Medizin*, 1895, p. 405). Thayer (*American Journal of the Medical Sciences*, cxxviii, p. 391, 1904). In view of this it is incredible that a recent writer who purports to give himself an important place in promulgating the correct views concerning the causation of this disease, should say in a long contribution to the subject (S. Federn, *Wiener Klinik*, vii, July, 1905): "Infectious diseases have nothing to do with chronic arteriosclerosis, but rather with acute arteritis. Only malaria and syphilis are of importance for arteriosclerosis." Thayer's contribution alone, showing the late effect upon the heart and bloodvessels, gives abundant proof that arteriosclerosis is caused by typhoid fever. The radial arteries in the old typhoids were palpable in a proportion nearly three times as great as that found in control observations upon supposedly healthy individuals who had never had the disease, and the average systolic blood pressure was higher and the higher average of blood pressure was constant in every decade.

The most instructive example bearing upon the relation of arteriosclerosis to acute infectious disease that I have had was that of a brilliant professional man who, winning out after fifteen years of intemperate work, was seized with an attack of severe tonsilitis. Two months later he complained of palpitation, shakiness, nervousness, irritability, exhaustion, and disturbed sleep. Examination revealed tachycardia, tense pulse, moderate blood pressure (145 Stanton), blowing systolic murmur, hæmaglobin seventy-five per cent., erythrocytes 4,500,000. Measures adopted for the relief of the anæmia were successful. The tachycardia abated somewhat, the systolic murmur persisted, and gradually the signs of generalized arteriosclerosis developed. Within two years from the time of the acute infection there were well marked hypertrophy of the heart, accentuation of second sound, hardened radials and temporals, increased blood pressure (165 Stanton), occasionally albumin in the urine, etc.

The appended table showing the number of my patients who had infections is instructive, even though it does not indicate the time that elapsed between the infection and the arterial sclerosis. I am convinced that systemic infection of one kind or another is a potent cause of arteriosclerosis.

TABLE SHOWING THE FREQUENCY OF PRECEDING INFECTIOUS DISEASES.

| | |
|--|-----|
| Typhoid | 62 |
| Typhus | 3 |
| Malaria | 65 |
| (Whether all those included under this heading had real parasitic affection is questionable.) | |
| Scarlet fever | 15 |
| Diphtheria | 9 |
| Tonsilitis | 4 |
| Quinsy sore throat | 2 |
| Small pox | 10 |
| Yellow fever | 1 |
| Erysipelas | 3 |
| Influenza | 9 |
| Pneumonia | 30 |
| Pertussis | 3 |
| Phthisis | 3 |
| Septicæmia (including puerperal fever) | 5 |
| Rheumatism and gout | 87 |
| (Which includes everything classified by the patient as rheumatism, also rheumatic fever, rheumatic myositis, and fibrositis.) | |
| Lead poisoning | 5 |
| Chorea | 1 |
| Total | 352 |

A word must be said concerning the relation-

ship of the manifestations of the so called uric acid diathesis, even though the difficulty of defining the latter is very great. As clinicians we are made familiar with a class of patients who complain of fermentative dyspepsia, especially of stomachic indigestion, of frequent attacks of depression of spirits without attributable cause, of occasional attacks of headache that are frankly autotoxæmic, of frequent attacks of "muscular rheumatism," stiff neck, intercostal pain and tenderness, lumbago, etc. Examination of these patients reveals tender spots over various parts of the body, particularly over the middle of the back of the neck, over the scapulæ, the intercostal spaces, especially about the nipple, over the middle of the bellies of the supinator muscles, and other parts of the body. These tender spots are, in the vast majority of instances, the manifestations of a fibrositis dependent upon insufficient metabolism. Whether or not the product of this insufficient metabolism is uric acid and whether the uric acid is directly responsible for it cannot, I think, be said at the present time. Some of the patients that present these symptoms are inclined to obesity, and this tendency to the deposition of fat may be looked upon as another stage in the development of the state arising from incomplete oxidation, insufficient metabolism. That the diathesis which the symptoms above enumerated indicate leads up to arteriosclerosis cannot, I think, be doubted.

The question whether arteriosclerosis is due to increase of blood pressure, or whether the rise of blood pressure, which so often accompanies arteriosclerosis is due to the disease, is one that cannot at the present time be answered satisfactorily, even though one finds it answered in the literature in a positive or negative manner depending upon the conviction of the individual who occupies himself with the task. Much has been said, and much can be said, on both sides. That which can be said without fear of contradiction is that the physician is often consulted for the relief of symptoms that are frankly due to exaltation of blood pressure and which are relieved by measures that lower it, in cases in which no real evidence of organic change in the arteries can be elicited. If such individuals continue the mode of life that has engendered the symptoms indicated, but not enumerated, detectable structural changes in the bloodvessels follow. It may well be that a condition of hypertonus of the muscular constituents of the vessel wall is preliminary to structural anatomical change.

We are all familiar with the individual who, engrossingly occupied with business or professional duties, eats each day two or three times to repletion, and who facilitates apparently the digestion of that which he eats by taking comparatively small quantities of alcohol in the shape of palatable beverage, finds himself at the end of the season feeling stale. He complains of fermentative dyspepsia, constipation, depression of spirits, lassitude, inertia, occasional palpitation of the heart, disturbed sleep, and certain other sensations often called plethoric, or referred to the liver. Indulgence in physical exercise, to which as a rule he has been a stranger, a course

of saline waters, an occasional blue pill or a gray powder, a holiday during which he can eat, drink, and smoke as he likes, cause a cessation of these symptoms and make him "fit" again. He returns to the life which he previously led with renewed energy and apparently restored. But it is a fictitious transformation. Renewal of the old habits and return to the old mode of life causes sooner or later return of the symptoms, and if it is kept up long enough it almost always results in structural changes in the bloodvessels. It is not the engrossing work that causes this, in the majority of instances, it is the indulgence in food and drink, and the abstinence from exercise necessary that the tissues may dispose of it that brings about the changes in the vessels, which are in these cases at least secondary to vascular hypertonus.

These cases furnish the majority of the examples of precocious arteriosclerosis associated with obesity, and likewise many of the cases associated with and apparently dependent upon so called gout and rheumatism. A recognition of these facts furnish also whatever rationale there is, many of the dietetic fads that are so prevalent in this twentieth century varying from "Fletcherism," which cannot be too highly commended, to going without breakfast, living on nuts, etc., which cannot be too severely decried.

After everything has been said about the causes of arteriosclerosis, their actual and relative importance, it is necessary to revert to the individual who develops the disease. After all he is the important factor. Why he cannot stand the wear and tear of life, eat, drink, smoke, be strenuous or slothful, without developing fatty transformation and disintegration of the tunica intima, and the replacement of the muscle fibre of the media with atrophic connective tissue we do not really know. We only know that there are many who cannot.

HISTORY.—The history of arteriosclerosis really dates from the time of Lobstein's activity. In his *Lehrbuch der pathologischen Anatomie*, was given the first comprehensive account of it. Of course, certain manifestations of visceral arteriosclerosis such as angina pectoris were known. This condition was well described by Rougnon in France and Heberden in England, and later by Jenner and Parry, who more particularly pointed out its relationship to disease of the coronary arteries. Structural alterations in the walls of bloodvessels had been observed and described by Sena (1682-1770) and Morgagni (1693-1770), but the condition remained without a special designation until Lobstein applied to it the term *arteriosclerosis* (1834).

The fundamental basis of all research as to the causation of arterial disease was the inflammation theory (Scarpa, Haller, Kreysig, Lobstein, Bizot). Ten years after the introduction of the term arteriosclerosis by Lobstein in 1834, Rokitsansky, supported by Donders and Jansen, rejected the inflammation theory, in favor of the assumption of material deposited from the circulating blood, hostile to the integrity of the vascular wall. Engel, Crisp, and Neumann refused to accept the deposition theory. The

strongest opposition came from Resse, whose histological studies confirmed the theory of malnutrition (interrupted nutrition), and new connective tissue formation. Virchow's division of the process into a simple and an atheromatous degeneration, the former of passive character, the latter an active neoplastic process (endarteritis chronica deformans) upset and replaced the humeropathological theory of Rokitsansky.

The subject had attention first attracted to it in England by the study of Kirke's (*Medical Times and Gazette*, 1855), and George Johnson upon the kidneys. Johnson formulated and actively promulgated a theory of its origin. He held that the kidney lesion was primary, and that the retention of effete materials in the blood which were noxious to the tissues led to a stop-cock action of the arterioles with subsequent hypertrophy of the muscular coat, and this to high arterial tension and cardiac hypertrophy and thus to a vicious circle. He believed that the alteration of the vessel was largely due to the increase of the muscular tissue, the result of continued over action of spasm. The immediate purpose of this muscular hypertrophy was to prevent impure blood from reaching the tissues. According to this idea the heart and the arteries were in reality pitted one against the other, the heart was more capable of pumping blood because of its hypertrophy, and the bloodvessels because of their hypertrophy kept the blood from getting into the tissues (*Medical Chirurgical Transactions*, xxxiii, p. 107, 1850; li, p. 57, 1868; lvi, p. 139, 1875).

Primary proliferation of fibrous tissue in the kidney with secondary vascular changes was assumed by Dickinson (1875). Ewald, Dreschfeld, and Mahomed (1881) were of the opinion that primary renal lesion and disease of the vascular system in general might each result in the production of the other.

Gull and Sutton, whose first contribution was made in 1872 (*Medical Chirurgical Transactions*, lv, p. 273), held that the disease arteriocapillary fibrosis, which they called it, was a widespread affection of the smaller vessels, the lesion of the vessels being a primary one which resulted in thickening of the arterial wall. The process was a fibrous one mainly, the adventitia being principally involved. Although they fully recognized the changes in the media and intima, these they considered were largely secondary. They recognized the relationship of arteriosclerosis to chronic renal disease, but they insisted that the morbid condition in the arterioles and capillaries was the primary and essential condition of the state commonly called Bright's disease with contracted kidney. The increased blood pressure which was found in this condition they looked upon as the result of the change in the bloodvessels which led to hypertrophy of the heart.

The next most important contribution to the subject was made by Traube (*Gesammelte Beiträge*, iii, Berlin, 1878). According to his idea certain aetiological factors increased the tonus of the arterial muscles thus tending to diminish the flow of blood out of the aorta. In consequence of this the blood pressure increased and the veloc-

ity of the blood stream diminished. This he considered to be an element of great importance in the development of the arteriosclerotic changes, because the white blood corpuscles of the slowed stream gathered toward the arterial wall and migrated through the epithelium into the intima and formed connective tissue.

According to Rindfleisch, nutritional disturbances due to the retardation of the blood current were the ultimate cause for the pathological changes in the wall. In a large measure Traube's contentions concerning the pathological process of the disease have been shown to be erroneous, but insofar as he maintained that the common antecedent condition of sclerosis of the vessels and the hypertrophy of the heart was the increased tonus of the muscles of the artery, modern conception seems to agree with him. Nor are the teachings of Virchow, or of Ziegler, and other German pathologists of that day acceptable. For instance, they taught that the condition was originally an inflammatory one. Virchow stated that the disease designated by him as chronic endarteritis deformans is in reality a primary parenchymatous inflammation of the intima, and Ziegler attempted to account for the lesions of arteriosclerosis by maintaining a hæmatogenous proliferation or productive aortitis and arteritis. The intima was supposed to become affected from the blood circulating in the lumen of the vessel, no connection or means of communication having been discovered between the nonvascular intima, and the other vascular coats, in the histological studies of Küster, Stronganow, and Talma.

Küster (*Berliner klinische Wochenschrift*, No. 31, 1876) attempted to explain the thickening of the intima by positing a primary mesarteritis with a penetration of the vessels and inflammatory infiltrate first of the media and then of the intima, but as was stated above, these views are practically abandoned.

Certain important additions to contemporaneous knowledge were made by two pupils of Küster's, viz., Trompeter and Kraft, to the effect that the media is invariably affected simultaneously with or very shortly after the intima; and also that the pathological process of the vascular wall is largely dependent upon the vasa vasorum. The latter observation was confirmed shortly afterwards by the experiments of Durante.

The principal contribution from France about this time was that by Huchard who, in his textbook on diseases of the heart and the vessels, and in various publications, principally in the *Revue de médecine*, and *Le Progrès médical*, pointed out the chief ætiological factors, studied the clinical manifestations of the disease in the greatest detail and contributed materially to our present day conception of the pathogenesis of the disease; and finally he has perhaps contributed more to the rational conception and treatment of the disease than any other individual writer. It was Huchard's idea that arteriosclerosis is the expression of a general weakening of the entire vascular system, the arteries, veins, and lymphatics participating in the condition. The early manifestations of the disease are those which are commonly called vasomotor, and are conditioned by

a spastic contraction of the smaller arteries. This contraction of the smaller arteries causes a general elevation of the blood pressure which influences the heart and the entire vascular system. Gradually one after another, depending upon some local cause, one or another organ becomes affected.

Huchard's predecessors were Lancereaux, who explained arteriosclerosis as a proliferation of the cells of the intima with malnutrition and subsequent degeneration (*Archives générales de médecine*, i, 1883) and de Mussy, who published a historical sketch of the subject including atheroma under the term induration and pointing out the frequency of the condition in youth and middle life (Noel Gueldan de Mussy, *Étude clinique sur les indurations des artères*, *Archives générales de médecine*, p. 120, 1872).

The contributions of another French writer have put us under obligations for much of our present day conception of the disease. Hippolyte Martin (*Recherches sur les procédés, lésions atheromateuses des artères*, and *Recherches sur la nature et la pathogenie des lésions viscérales consecutives à l'endartérite oblitérante et progressive*, *Revue de médecine*, i, 1881) advanced the view that arteriosclerosis is a phenomenon of a progressive and general disease. The character of the process consists in a thickening of the smallest arterial vessels which produces nutritional disturbances and connective tissue sclerosis of all the organs, the kidneys, heart, liver, spinal cord, and also the large arteries.

He emphasized that the disease was by no means peculiar to advanced age for even in young children the circumscribed thickenings of the intima which are occasionally seen in the large portion of the aorta originate by endarteritic thickening of small vessels of the adventitia. The degeneration begins simultaneously with proliferation of the intima, as well as in the deep layers of the intima. The thickening in the small vessels which results in what Martin calls dystrophic sclerosis, is caused in its turn by toxic and infectious substances in the blood. These toxic substances might be the result of an acute infectious disease, such as typhoid fever, diphtheria, influenza, etc. Martin's views were not shared by many of his contemporaries competent to speak on the subject, such as Cornill, Ranvier, *et al.* According to the view prevalent in France the process is not restricted to the vascular system, but represents a constitutional anomaly affecting the walls of bloodvessels together with the parenchyma of other organs of the body.

It is not uninteresting to note in this connection that in the Middleton-Goldsmith Lecture on the relation of diseases of the kidney, especially to Bright's diseases, to diseases of the heart (*Medical News*, May 5, 1888) Da Costa again pointed out the familiar fact that disturbed nerve power produces changes in structure by affecting its nutrition, in every tissue of the body. Adopting this view of the derangement of nerve condition, and of the vasomotor influences being the starting point, the well known lesions in the vessels, both large and small, are readily explained. The change is too extensive to be a

mere self determined local growth of the coats of the vessels. He locates as most likely the original starting point of the alteration, alike of the vessels and of the heart muscle, in the nervous ganglia and in the parts of the nervous system controlling the nutrition of these textures. The ultimate cause may be gout, lithæmia, rheumatism, alcoholism, lead, it may be purely perverted nervous function from worry, strain, or anxiety. Any one of these causes may start that alteration in the ganglionic nervous system which leads to degeneration and to formation of increased fibrous tissue and subsequent atrophy; and with it also to derangement of the heart and in the vascular texture supplied by the affected ganglia and nerve filaments.

Of all the German investigators who have contributed to the subject perhaps Thoma should be mentioned first, although his direct predecessors in his particular line of argument were Rokitsky and Traube. He may be said to have thoroughly formulated the mechanical theory. When from any cause slowing of the blood current takes place, the lumen of the vessel becomes narrowed through hypertrophy of the intima as a compensatory process, so that the rate of flow shall be maintained. In diffuse arteriosclerosis the elementary cause may be either a primary weakening of the media and consequent dilatation of the vessels, or slowing of the blood current from increased resistance in the peripheral tissues. In local arteriosclerosis the lesion of the media causes a local dilatation of the lumen of the vessel and consequently the compensatory local hyperplasia of the intima. The pathological arteriosclerotic thickening of the arteries is interpreted by Thoma as a purely compensatory process, and very little importance is attributed by him to the degenerative character of this process, for they are, he maintains, entirely secondary. The striking narrowing of the lumen of the bloodvessels which cause such serious damage oftentimes are never the result he maintains of compensatory connective tissue proliferation, but they are due to the subsequent marked swelling through hyaline and fatty degeneration. From his point of view senile arteriosclerosis is nothing else than the outcome of a disease whose occurrence and recovery harkens back to the past of the individual, and it is not the disease itself.

Thoma's views have been widely accepted in Germany, in England, and in this country. F. W. Mott, one of England's leading neuropathologists, accepts Thoma's views unreservedly (*Allbutt's System of Medicine*). On the other hand, they are most unacceptable to Russell (*Encyclopædia of Medicine*, Edinburgh, 1903). The Thoma explanation is declared as conclusive by v. Schröter, in *Nothnagel's System*. They have been very seriously criticised. Councilman (*Transactions of the American Physicians*, vi, p. 79, 1891) maintains that some of his explanations are extremely hypothetical, and have no corroboration from pathology and analogy. Huchard declines even to consider them. Beneke and Pekelharing assume as primary factors a disposition between pressure and tension, with diminished resistance.

The mechanical theory of Thoma has received

too much attention, according to Bollinger (*Allbutt's System of Medicine*, viii, p. 303). R. F. Fuchs refuses the Thoma theory altogether on the grounds that the actual primary retardation of the blood current is hardly demonstrable, and too speculative an occurrence to serve as the basis of a theory.

In 1899, Edgren, of Stockholm, published a clinical contribution to the subject of arteriosclerosis in which he reviewed the subject with considerable thoroughness. He adopted Huchard's teachings concerning the pathogenesis of the disease.

It is in latter years especially that the subject of arteriosclerosis has had an important revival, and within the past few years contributions of Russell (*British Medical Journal*, June 4, 1904; *Lancet*, June 1, 1901; *Cyclopædia of Medicine*, xiii); in Germany, S. v. Basch (*Die Herzkrankheiten bei Arteriosklerose*, Berlin, 1901). This is a monograph based upon an enormous quantity of clinical material. The author says that high blood pressure indicates resistance encountered by the blood flowing from the left ventricle. The intermittent presence of an abnormally increased blood pressure (over 150 mm. Hg.) in the same individual suggests a very sensitive form of reaction of the vasomotor centres. The variable manifestation of the phenomenon naturally indicates that the latter is based upon a temporary vascular contraction only, and not upon anatomical changes in the vessels. The discussion on the subject in Germany (*Verhandlungen des Congresses für innere Medizin*, 1904), by Marchand and Romberg; the contributions of Dunin (*Zeitschrift für klinische Medizin*, liv, 1904), of Federn (*Wiener Klinik*, vii, July, 1905), Siehle (*Wiener klinische Wochenschrift*, No. 14, 1905), Windscheid (*Die Beziehungen der Arteriosklerose zu Erkrankungen des Gehirns, Münchener medizinische Wochenschrift*, No. 9, 1902), and in this country the discussion on the subject by the American Medical Association in 1904, renewed interest in the disease.

The rôle played by acute infections was discussed by Fair and Brush. The intoxications as ætiological factors in the form of alcohol and lead were considered by Cabot and by Billings, respectively. Osler outlined the relations of angina pectoris to arteriosclerosis, and Anders discussed the treatment.

In fact, the American contributions to the general subject within the past few years have been numerous. The histological and experimental fields were explored by Coats and Auld, who expressed the belief that the media is affected in atheroma, only when the elastic layer is altered. The separation of the elastica is considered as a late change, and they assumed the membrane to be intact in the early stages (*Journal of Pathology and Bacteriology*, July, 1896).

A special study of the early lesions of arteriosclerosis was made by Coplan (*Proceedings of the Pathological Society of Philadelphia*, May, 1904). Adler accepts the teachings of Thoma, and points out in a general way some of the topographical varieties of the disease. Starr discusses its relationship to some neuroses (*Medical Record*, July 4, 1903). Stockton (*American Medicine*, August 5,

1905) holds that there is every reason to believe that the initial change may begin in one of the internal organs, the heart, kidneys, and brain, and become generalized gradually. Williams takes a very extreme position in assuming syphilis as the fundamental cause of both aneurysmal and arteriosclerotic disease of the vascular system (*Journal of Pathology and Bacteriology*, November, 1901). An inferior grade of structure (tissue inadequacy) was pointed out by Osler as a possible ætiological factor of arteriosclerosis.

The subject of arteriosclerosis has been further discussed in this country in its relation to disease of the nervous system by Diller (*New York Medical Journal*, May 7, 1904) and by Spiller (*Proceedings of the Pathological Society of Philadelphia*, vii), while special vascular conditions have been dealt with by Sailer and Pfahler (*American Journal of Medical Sciences*, October, 1903). Bonduant, availing himself of his former great opportunity while physician to a large asylum, studied arteriosclerosis among the insane, and based valuable conclusions upon 200 cases with autopsy. Finally, an important paper by Camac entitled *Some Observations on Aneurysm and Arterial Sclerosis* should be mentioned (*American Journal of Medical Sciences*, March, 1905), and various papers by Stengel, especially that in the *Proceedings of the Association of American Physicians*, May, 1904.

In recent years a considerable effort has been made to produce the lesions arteriosclerosis experimentally, but it is only within the past two years that anything like success has attended these efforts. Josué (*Presse médicale*, 1903, ii, p. 198) produces lesions in the aorta of rabbits similar to those of human arteriosclerosis by frequent intravenous injections of adrenalin continued during several weeks. His results were corroborated by W. Erb, Jr. (*Verhandlungen des Congresses für innere Medizin*, xxi, p. 110, 1904), Fisher (*Münchener medizinische Wochenschrift*, lii, p. 46, 1905), and by Pierce and Stanton in this country (*Journal of Experimental Medicine*, viii, January, 1906). Braun attempted to determine whether this experimental arteriosclerosis was to be explained by exalted blood pressure which adrenalin causes. He repeated the experiments of Josué, but he invariably injected adrenalin in combination with amylnitrite in order to exclude the rise of blood pressure. Arteriosclerosis developed in these cases, and this was taken to indicate that the essential factor in the origin of the disease experimentally, at least, is not blood pressure. The results of experimental arteriosclerosis have not been accepted by pathologists, or as Marchand has stated, the alterations cannot be classed with these of human arteriosclerosis, since the intima was intact in most of the cases. Pearce and Stanton have also pointed out that the experimental lesions and those occurring in man are not entirely analogous.

Based on his experimental findings in the study of the effect of intravenous adrenalin injections into animals, Marini arrives at the conclusion that ordinary clinical vascular atheroma, no less than experimental adrenalin atheroma, is the result of increased tension in the arterial sys-

tem; whether this rise of tension be due to chronic lead poisoning, gout, over exertion, chronic nephritis, or nutritional excess. It is possible by the administration of adrenalin to produce dilatation of the left ventricle and atheromatous patches in the aorta, followed by hypertrophy in the left ventricle, general diffuse aortic atheroma, and finally aortic aneurysm. The effect is not directly chemical, but is induced by the constriction of the peripheral vessels, especially the vaso vasorum, which leads to a considerable increase of the arterial pressure (Marini, *Considerazioni sulla patogenesi dell' atheromatia adrenalinica e dell' atheroma in generale*, *Gazzetta degli ospedali e delle cliniche*, No. 22, 1905).

A special study of the character and significance of aortic lesions produced by intravenous injections of adrenalin was made by L. d'Amato and V. Faggella (*Giornale internazionale delle scienze mediche*, 1905). The changes in the aorta are not ascribed by these observers to the rise of blood pressure, but to a direct toxic effect of the suprarenal preparations upon the vascular walls, especially the unstriated muscle fibres.

37 WEST FIFTY-FOURTH STREET.

DUAL ACUTE OTITIC CEREBRAL ABSCESS. OPERATION. RECOVERY.*

By CHEVALIER JACKSON, M. D.,

PITTSBURGH, PA.

The writer has devoted himself to the study and perfection of detail in surgical technics in the operative work of this case, the drainage, dressing, etc. The observation and analysis of symptoms were left to Dr. John W. Boyce, who kindly sent me the notes which are inserted. To this division of labor the successful outcome is in large measure due.

CASE.—Mr. A., aged thirty-three, carpenter by occupation, was sent to me by Dr. T. S. Anderson for mastoid operation. There was a history of left middle ear suppuration of ten days' duration following earache subsequent to a blow on the side of the head. As Dr. Anderson had only been called to the case that same day, the preceding local conditions were unknown. But the patient and his family were certain as to the duration of the ear symptoms. His temperature was 100.8°; pulse, 76; respirations, 20. The mastoid was slightly tender, the posterior superior meatal wall was sagging, pus of only laudable odor was escaping from a high membranous perforation.

Mastoid operation performed on July 10, 1905, at the Eye and Ear Hospital, with the assistance of Dr. Anderson, and Dr. Ellen J. Patterson. I opened the mastoid, which contained pus in scattered locations, apparently isolated from each other. The tip cells were normal. The bone was in no location eroded through to the dura, though there was some softened bone in both tegmina. After it was curetted away, there was a layer of apparently healthy bone remaining, the tegmen mastoideum having a particularly good layer of normal bone.

The postoperative pyrexia went to 100.6°, subsiding to normal after a cathartic on the second day. Pulse, temperature, and respirations remained normal for a week, the patient being on full diet and going about the hospital.

* Read before the Southern Section of the American Laryngological, Rhinological, and Otological Society at Norfolk, Va., January 15, 1906.

On the eighth day after operation (eighteenth of disease) he was taken to his home in the suburbs.

Dr. Anderson reported that on the next day the patient became unconscious and had a convulsion. On the tenth day after the mastoid operation we ordered him brought back to the hospital.

The later history of the case is best told by Dr. Boyce:

"Patient was readmitted at 11 a. m., July 19, 1905. The history was that he had 'seemed queer' on going home. On that morning he had suddenly become unconscious while alone, and had had four general convulsions before arriving at the hospital. The predominant symptom was the patient's mental state, which was one of semistupor, with confusion of ideas, abolition of memory, and absolute inability to fix his attention. Voluntary movement and reflexes seemed equal on the two sides; the pupillary reflex being rather sluggish. The face and head were noted as asymmetrical. It was said that the patient had always been peculiar. The pulse showed a tension of 88 millimeters, which we regarded, at that time, as low, but which subsequent observation shows to be about the normal standard in this particular individual. There was considerable leucocytosis. The urine was highly acid and showed an unusual quantity of indican.

"Calomel (10 grains) was administered; patient slept soundly all night, and awoke perfectly rational. This was not the slight degree of better or worse that may be observed from time to time in any mental condition, but a complete disappearance of all symptoms. At this time the diagnosis of organic disease within the brain was ruled out from consideration.

"On July 21st, the third day in the hospital, patient seemed in good condition, except for moderate pain above the eyes, and in left side of forehead. A foul odor of the breath was present.

"On the fourth day, on account of failure of appetite, which had previously been excellent, patient was put on light diet. Headache continued moderate in amount. No new symptom was noted until the sixth day, when his mind was again confused, and the pain in head became severe. In the evening while taking calomel, he vomited a little. The next day there was some slight improvement in the mental condition. Eye grounds were examined by Dr. Glendon E. Curry, and found normal. About noon he vomited a second time. The pulse tension had been slowly rising, and now stood at 118. On July 26th (twenty-sixth day of disease), his mind seemed clear, but there was great difficulty in expression. Examination showed a well marked case of optic aphasia. He could read time correctly, but could not name the watch; called the pen a 'poidon'; a bottle a 'womn'; would not attempt to name a key, said: 'I know what it is, but I don't know what it is'; a rose he called a 'flower'; asked as to kind, he said it was 'a sort of mosette'; but was evidently dissatisfied with the word. After this examination he lay with back of head to forehead as though exhausted by intellectual effort.

"On percussion, dullness was unmistakably present on the left side. It was noted that the pulse was slow in proportion to the temperature. Pain had continued from the second day, but was located always in the frontal region.

"Operation was decided upon, mainly on the strength of the former bone infection, the steadily rising blood pressure, and the optic aphasia, which is a symptom of utmost importance, not only for diagnosis, but also for localization. Subsequent study of the subject convinced me that great weight should have been accorded to percussion dullness, the high degree of leucocytosis, and to the characteristically foul odor of the breath; but they did not figure to any extent in the decision in this case. The vomiting which had occurred was

slight, and, I believe, accidental, and not in any way diagnostic. The pain, because of its localization, tended rather to mislead than to aid us."

Second operation. First abscess evacuated July 26, 1905.—With the assistance of Dr. T. S. Anderson and Dr. Ellen J. Patterson, chloroform being administered by Dr. Helen F. Upham, I explored the brain.

A tongue shaped flap was turned forward in the scalp over the parietotemporal region. Sufficient periosteum was elevated to permit making with trephine and rongeur an opening four cm. in diameter in the skull, its centre being about three cm. above and two cm. back of the centre of the external auditory meatus. The dura and cerebral cortex looked normal. A dural flap was reflected forward, and the exploratory cannula was inserted forward, downward, and inward to the distance of two cm. and its blades separated. About four drachms of pus of dark brownish color, and of only laudable odor, with floating brain sloughs, poured out. There was no capsule, the exploring cannula passed first through normal brain tissue, then through a zone of softened reddish brain tissue, then into the pus.

This difference in tissue and absence of a capsule were quite apparent to the touch as transmitted by the dilating forceps. Spreading the blades every five mm. as they passed inward showed the nature of the tissues to the eye also.

The cavity was not washed out, but the surface of the brain meninges, and the wound generally were irrigated with a 1:5,000 bichloride solution, and then several turns of gauze were folded into the cavity, the ends extending out through the wound for drainage. The wound was dressed daily.

(Dr. Boyce) "After operation, patient rested well. When seen the next morning he had great difficulty in answering questions. It seemed that there was some mental impairment, but that the main difficulty was aphasic. The right (opposite) side of the face was expressionless. There was no diminution of strength in the right hand, but a certain difficulty in coordination. Blood pressure fell below 90 on the twenty-seventh day. On the twenty-eighth, it was again at 115, but on the twenty-ninth was down again to 95. Meanwhile, there was some complaint of headache. Mind was uniformly better than on the day after the operation; the aphasia continued unchanged. The control of the right hand was slowly improving. Appetite good.

"On the thirty-first day of the disease, the patient moaned a great deal, vomited once, and mental condition was distinctly worse than it had been since operation. On the thirty-second day the conditions were still worse. Pulse tension stood at 118 in the morning; in the afternoon 122, a trifle higher than it had been before the first operation. On the strength of this symptom, with the gradual failure of mental condition after a period of improvement, further exploration of the brain was advised."

Third operation. Second abscess evacuated August 1, 1905.—Acting upon this advice of Dr. Boyce, I dilated the channel to the abscess cavity and searched for a communication to a pus pocket. Failing to find one, the brain exploring forceps was passed forward and somewhat downward in a direction parallel with the temporal gyri. The forceps was felt to pass through about a centimetre of brain tissue of normal resistance, before resistance ceased and the pus of the same laudable odor and the same brownish, hemorrhagic color as that of the first abscess began to flow. About an ounce in all escaped. Cigarette drainage was used from this time on.

(Dr. Boyce) "After evacuation of this second abscess, pulse tension came down to normal; urine was scant for a considerable period, and the patient was

exceedingly apathetic, but rested better than previously. The subsequent history of the case is that of continuous improvement, the change in the mental condition being very plain in spite of the difficulty in examination caused by the aphasia. There was at several times complaint of pain in the head; twice or three times, confusion of mind, and on one occasion actual delusions. The blood pressure several times was as high as 100. These symptoms all proved transitory, and are attributable, I think, to the difficulty of maintaining perfect drainage in the mushy tissue of the brain.

During convalescence, the patient emaciated to an extreme degree, and required special feeding."

The patient left the hospital the last of August, twenty-nine days after evacuation of the last abscess. The hernia cerebri left an elevation of fibrous tissue about the size of half a walnut. Six months later he was reported by Dr. J. S. Demuth, of Crafton, to be going about in fair health, with rapidly returning speech control. About a month after leaving the hospital he had a pneumonia, with delirium, then coma. When he awoke from coma, increased aphasia, hemiplegia, and hemianopsia were noticed. All these symptoms yielded to iodides, potassium, and mercuric.

Bacteriological Report by Dr. Joseph H. Barack.—From the mastoid pus: diplococci in pure culture. From the first brain abscess: streptococci in pure culture. Second abscess, same.

Remarks. At the first (mastoid) operation the original septic focus was removed cleanly down to healthy bone in all directions, and there was no discoverable patch leading therefrom to any other diseased focus. The patient apparently recovered, the symptom triad, temperature, pulse, and respiration was normal, strength was returning, and the man was walking about. In view of these, the writer felt justified in attributing no importance to a slight taciturnity and hesitation in answering, especially as the patient's friends said he was "always a little queer" and that he had been a stammerer, and that all his life he hesitated for a word at times. The sudden onset of serious symptoms, unconsciousness, convulsions, semistupor, confusion of ideas, loss of memory, and wandering off from the subject, would lead one to suspect that there had been either a sudden spread of a quiescent old focus, due to a jar, as in falling, or an onset of a new focus, due to septic embolism or thrombosis. The findings at the first brain exploration and the dual lesion demonstrate the correctness of the latter view.

Five facts are to be considered in deciding the pathology of this case, namely: The ear suppuration; the blow on the head; the zone of red softening surrounding the abscesses; the recovery, under specific treatment, from a subsequent threatening recurrence of cerebral trouble; and the finding of diplococci in the mastoid wound of streptococci in each of the brain abscesses, in each of the three instances the organisms being in pure culture. That the original brain lesion was not a gumma must be conceded, because there were no cerebral symptoms prior to the formation of pus. But that syphilis was a factor in the acute disintegration of brain tissue seems likely.

The brownish color of the pus and the brownish red and gray brain sloughs extruded later, show the pathology of the lesion was the breaking down and suppuration of a hæmorrhagic encephalitis, probably originating as an infective thrombophlebitis. In-

farcction by septic embolus is a possibility but seems less plausible.

The relief of the symptoms followed by their return, might seem to point to the possibility of the second abscess being but a pus pocket, due to defective drainage and not to a separate or original embolic focus. In the writer's opinion this is not an argument against the duality of the lesion, though he admits the possibility that the collapsing of the normal brain tissue may have prevented drainage of a part of a single cavity, and that this collapsed normal tissue may have been in the track of the exploring instrument. The relief of the symptoms the writer considers to have been due to the relief of pressure from the evacuation of the first abscess, the pressure again increasing from increase in size of the second abscess. He must admit that it is impossible to be absolutely certain in any case that channels of communication between brain abscess cavities do not exist, but even when present they are as likely to have originated after the abscesses have formed as to have been pioneer paths of pyogenic extension. The much larger size of the second (in order of evacuation) abscess would argue against its having been secondary in order of formation, but granting that it were, clinically the lesson is the same.

The blow on the head thought by the relatives to have been the cause of the median otitis, if a factor at all in the subsequent abscess formation, could have been so only by lowering the tissue resistance. There was no evidence of bony fracture, nor of trauma by which infection could have entered. However, this coincidence of a blow, a suppurative otitis, and a brain abscess, has occurred once previously in the writer's personal experience, and a number of such cases are recorded in the literature.

The variance between the organisms found in the mastoid and the brain pus does not seem a positive argument against the ætiological relation of the lesions, as sufficient time had elapsed for the invasion and victory of another organism.

The heterolateral paretic symptoms in the distribution of the seventh nerve evidenced irritation, but not breaking down of the gyrus centralis anterior, rather than pachymeningitis at the dural emergence. This might have been of localizing value if it had been so marked as to exclude preceding habitual asymmetrical muscular activity.

Perhaps the most valuable lesson to be learned from this case is the warning it conveys to be on our guard lest while resting content with maintaining drainage from one brain abscess cavity, a second brain abscess may be killing the patient, though showing but slight symptoms. The writer feels confident that, had not Dr. Boyce been studying this case closely, the necessity for the search for a second abscess would not have been realized, and the case would have swelled the list of the many brain abscess cases fatal through failure to recognize the frequently multiple character of these lesions.

Another warning conveyed is that an acute brain abscess may develop in a short time. Most of the literature deals with chronic abscesses, which are often of months' or even of years' standing. The effect of this, judging by opinions encountered by the writer in consultations, has been that many able men want to rule out brain abscess in any case with only a few weeks' otorrhœa. In this case only nine-

teen days elapsed between the initial otalgia and the convulsions and other undoubted cerebral symptoms. From the onset of the otorrhœa only fifteen days elapsed. The general epileptiform convulsions in this case are rather unusual.

Another point of especial interest is the misleading disappearance of all urgent cerebral symptoms after the administration of calomel. We must be on our guard and remember that a man with a brain abscess may have intestinal autotoxæmia, as well as one without, indeed he is even more likely to have it, on account of the damaged innervation of his general eliminative apparatus, his torpor and his constipation. It does not seem possible that a single dose, even though it was large, of calomel, and in so short a time, could have acted as subsequently mercury biniodid did.

Whether the slow evacuation unintentionally resulting from the opening the second abscess after an interval of several days, assisted in ultimate cure, is a question.

Another valuable lesson would seem to be the indication for potassium iodid and mercury biniodid in the postoperative treatment of acute abscess, especially upon signs of recurrence of cerebral trouble. Evidently there was a serous meningitis, with possibly some fibrinous exudate, complicating the pneu-

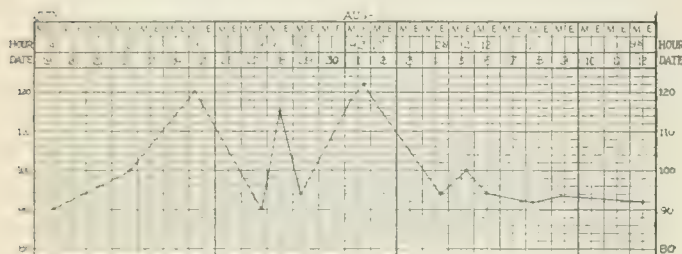


FIG. 1.—Chart.

monia, but the whole case does not seem free from luetic suspicion.

Cigarette drainage was found more satisfactory than anything the writer has ever used, though it is far from perfection. It required daily changing, and when the periaabscess zone of red softening was breaking down there were at times indications for even bi-daily insertion of fresh drainage. In two weeks a fistula was formed, after which the drainage was shortened daily and was dispensed with on the twenty-first day after the operation.

Packing the cavity with gauze or even wicking the wound has never proved satisfactory. The writer has never yet removed gauze drainage from the brain that pus did not follow it out. It had been acting as a dam, not as a drain. Of course it had maintained a fistula, which was of advantage, but there is always some adhesion to the walls of the fistula. There is no adhesion to the cigarette drain and a large, smooth walled fistula is soon established through which brain sloughs and debris are extruded at each dressing, much as clots are expelled by the post partum uterus. The less meddling with the interior of the brain lesion, the better are the results, in the writer's experience. Irrigation may scatter infection and it is unnecessary. Shortening of the drainage only after a good fistula had been formed, assured efficient drainage while the fistula was healing from the bottom.

The insertion of the little finger into the abscess cavity was avoided in this case, and the writer will never employ it again. He feels certain that there is great risk of disturbing the protective inflammatory adhesion of the meninges to each other by which they obliterate the arachnoid space around the meningeal opening.

The exploratory dilator shown in the cut has given the writer great satisfaction. Its blades are like two grooved directors, giving the equivalent of a cannula for insertion, as the spring holds the grooved surfaces closely in apposition. They can be separated from time to time at various depths, probably every half centimetre, after the first centimetre, is about right. Cheesy pus and softened brain tissue is forced outward between the separated blades by the expulsive force of the brain. The tract can be inspected by the ordinary electric headlight, or the encephaloscope may be passed between the separated blades, as may also the drainage or dressings. The dilator is always inserted closed and it is a coarse hand indeed that would force it through a normal ventricular wall, while a sharp knife conveys no sensation of resistance. There are rare cases when it is desirable to open a ventricle, but in all other cases it is a disaster. At subsequent dressings the dilator in gentle hands will follow the drainage channel without making a false passage.

The ratchet trephine shown was devised a number of years ago by the writer. It will remove a button of bone in about half the time required with the old instrument, though it seems awkward at first to those accustomed to the old trephine. The shank is not hollow, and it can be readily taken apart, so that it is thoroughly cleanable.

The chisel with rounded corners and rounded basil is convenient for removing bone quickly and exposing the dura safely, in getting a start for the rongeur. A man must be a genius in awkwardness to injure the dura with this instrument.

In the technics the value of a tongue shaped flap, base forward, and independent of the mastoid wound, was demonstrated. The after management of the wound was rendered painless and highly efficient as to drainage.

Had no pus been found, the clean field and primary union would have been an even more forcible demonstration of the advantages of this method. With this in view, the writer always prefers, when the symptoms are not urgent, to explore the brain

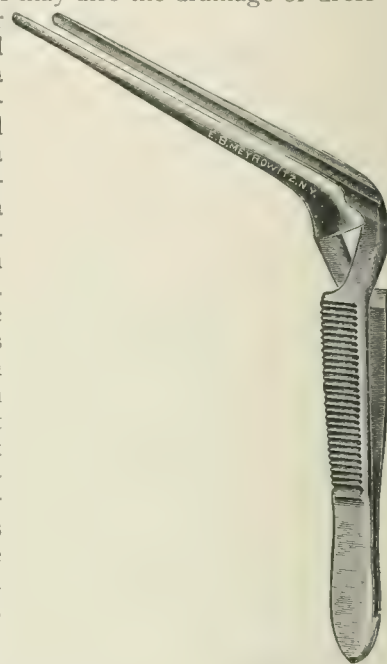


FIG. 2.—Dilator.

at a subsequent clean operation, with field, hands and armamentarium free from suspicion of infection from the mastoid operation.

Another point previously advocated by the writer was demonstrated again, namely: The value of a brain opening posterior to the abscess as assisting drainage by gravity in the dorsally decumbent patient. While this involves traversing a slightly

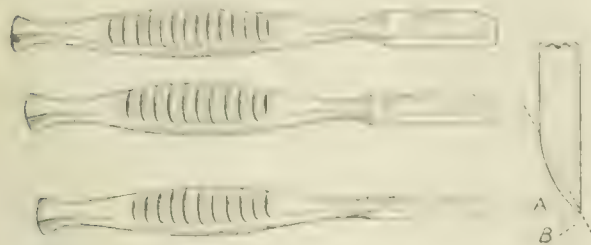


FIG. 3.—Chisel.

greater amount of normal brain tissue in reaching the abscess, yet this should not outweigh the importance of efficiency of drainage, which is to-day the greatest problem in the surgery of brain abscess.

Résumé.

The points of especial interest in this case are:

1. The importance of always bearing in mind the possible multiplicity, or at least duality, of brain abscesses.
2. The value of sphygmomanometric charts in determining the probable presence of (a) brain abscess; (b) reaccumulation of pus in the cavity, or, (c) another abscess.
3. The difficulty of diagnosis of aphasia in a stammerer, and especially one who, when not stammering, habitually hesitated for a word.
4. The history of a blow on the head.
5. The recovery, under specific treatment, from a subsequent threatening recurrence of cerebral trouble.
6. The development of a brain abscess in nineteen days from the initial otalgia, fifteen days from the onset of the otorrhœa.
7. The general epileptiform convulsions.
8. The postcathartic disappearance of cerebral symptoms.
9. The value of the cigarette drain.
10. The value of a brain explorer which conveys to the trained touch evidence of the normality or diseased character of the tissues traversed, as compared to the knife, which goes through everything, even the ventricular wall, without conveying sensations of differences.
11. The advantage of a tongue-shaped flap, base forward, and independent of the mastoid wound. This advantage would have been still greater had there been no abscess, as primary union would have been assured.
12. The advantage, where possible, of making the evacuating opening posterior to the location (when known) of the abscess, to gain the help of gravity in drainage in the dorsally decumbent patient.

PARK BUILDING.

DIGITALIS AND BARIUM CHLORIDE.

By M. R. LAMELA, A. B., B. S., M. D.,

NEW YORK.

The therapeutical application of barium chloride is very limited, and it is not included in the new edition of the United States Pharmacopœia. In the particular instance which I wish to report, it apparently rendered a service hardly expected from a drug so little known in therapeutics.

Of all the barium salts, the chloride and sulphocarbonate are alone considered in medical literature; not even the physiological action of the latter has been definitely determined up to the present time. Experiments on dogs have shown that hypodermic injections of the chloride in doses of gr. 1-12 per pound of the body weight are capable of causing the death of the animal in twenty-four hours. The lesions produced are congestion and hæmorrhage of the glomeruli and tubes in the kidney (Pillet and Malbec [1]). Death is preceded by symptoms which correspond to the post mortem changes found in the kidney. Thus albuminuria and hæmaturia are constant ante mortem findings. Other symptoms are salivation, vomiting, purging, and dyspnoea. The heart is arrested in systole. Other pharmacological data show that barium chloride resembles in its action the glycosides of the digitalis series.

Bary carried out a very interesting experiment with a frog's heart paralyzed by muscarine and chloral, and stimulated to action by the chloride salt to such an extent that stimulation of the inhibitory nerves with a strong electric current failed to relax the systolic spasm, the salt acting directly on the heart (2). This action on the heart of barium chloride was confirmed by experiments carried out by Ringer and Lainsbury (3).

Concerning the therapeutics of barium chloride, there are many contradictory opinions, and few cases reported which give a favorable report of the use of this salt. The difficulties are further increased by reported cases of death following the administration of the drug even in very small doses. Badet and also Lopes, of Lisbon (4), report the death of a patient in ten days after daily use of the drug; the amount given per day being gr. $\frac{1}{4}$. Courton de Bordeaux (5) and Carpenter (6) both report very interesting cases of poisoning by the chloride salt; in the latter case the dose given was less than two grains three times a day. On the other hand no less an authority than Da Costa says that the barium chloride "diminishes and relieves cardiac distress, increasing the tone of the blood vessels and producing diuresis; also that it is a remedy that can be taken for a long time without danger of disordering the stomach." White and Wilcox in their book on *Therapeutics* remark that "It is not often given but has been used for mitral incompetency accompanied by irregularity of the heart" (7). Tabora admits its usefulness in disturbed compensation, but thinks it will never take the place of digitalis (8).

That the barium chloride is capable of replacing digitalis without the accumulative danger of the latter, nor its irritant action on the gastrointestinal mucosa, is shown by the following experience:

Mr. J. B., aged sixty years, New York. Merchant, married, five children alive and well, one dead from pulmonary tuberculosis. Father dead, cause unknown;

mother dead, cause, diabetes mellitus; five brothers and one sister dead. Does not drink alcoholic beverages, smokes little, drinks coffee in moderation.

Previous history: At fourteen had measles, complicated by otitis. At twenty-one had erysipelas of the face. In 1900 had acute lobar pneumonia, left side. The following year had phlebitis, left leg. Gonorrhœa at twenty-two; no history of syphilis.

Present history: In 1903 had an attack of poly-arthritis involving both knees and ankles, since then has been short of breath on the slightest exertion, and very frequently has severe pain over his heart, has palpitation, and is very restless at night. Soon both legs began to swell and varicose veins developed, accompanied by an eruption and itching so intense as to rob him of sleep. A physician was consulted, who advised that his varicose veins be painted with medicinal collodion and that stockinets be procured for his distended veins. These afforded no relief. With internal medication the patient improved very much. His dyspnœa was relieved, the pain in his right side (liver region) disappeared, the œdema of the ankles diminished, but the intense pruritus "did not improve a particle," and became more and more extensive over its distribution, involving body and upper extremities.

This patient suffered from chronic constipation, not having a movement sometimes for weeks. As advised by his physician, the prescribed medicine was to be taken intermittently. These directions were not followed by the patient, and several times (three times) the prescription was renewed (a two ounce bottle). On one of the occasions the patient (fortunately enough) was informed that he was getting digitalis.

On the morning of October 20, 1905, was called in a hurry to see him. I found the patient in bed, his face was livid, his feet and hands were cold, and his pulse was slow (54 per minute), but strong. The apex beat was forcible and the heart action was tumultuous. He had just ejected a greenish vomitus. The patient was not unconscious, and on interrogation told that after taking his usual morning dose of 10 minims he began to feel unwell, unpleasant symptoms having increased after the second dose was taken.

I washed out the stomach immediately and applied heat to his extremities and abdomen. An enema of magnesium sulphate, two ounces, aqua bullientis, four ounces, was given. Patient was kept in a horizontal position; and tincture of aconite administered in five minim doses every fifteen minutes for three doses, then three minims every half hour for two doses, the drug being continued in one minim doses every hour. Patient vomited once more and had involuntary movements.

After washing the stomach once more, the vomiting ceased and the patient felt more comfortable, although he felt very nervous because of the greenish hue which objects, and persons present in the room seemed to have. Under aconite the pulse diminished in force and tension, the heart stopped its rapid and violent beating, and one had occasion to appreciate the action of aconite as compared with the digitalis. Brandy in half ounce doses, caffeine and calomel in small doses to stimulate urinary flow were then given, and three days later the patient had recovered, although he complained of frontal headache and gastrointestinal irritation.

Some weeks later the patient again began to have dyspnœa, which was relieved when in upright posture (orthopnœa). He felt very nervous, had a disorder of vision (flashes of light), numbness of the fingers of the left hand, and a very intense pruritus (worse than ever) on both legs and arms.

He had clubbed and cyanotic finger nails, tremor of extended hands, protruding piles, very distended cutaneous veins, and a minute, papular eruption covered the legs and lower left thigh like a sheet.

Physical examination showed emphysematous lungs, otherwise it was negative, except for a pleuritic friction sound on the left lower axilla. The heart showed a feeble cardiac impulse; there was upper cardiac dullness. The right limit was one inch right of sternum; left limit, in nipple line; apex beat in left mamillary line. There was accentuation of pulmonic second sound and a regurgitant mitral murmur. The liver projected beyond the free border of the ribs. The pulse was small, irregular and frequent. The urine was negative.

I had already used the barium chloride on a woman who suffered from varicose veins and mitral regurgitation with fair results. I decided to try it again. A solution of this salt was prescribed, grs. v to the ounce of water (four ounces); of this one drachm to be taken three times a day. The patient being neurasthenic and anorexic took before her meals the tincture nucis vomica five minims, acid phosphoric diluted acid fifteen minims. The following ointment was used locally on the varicose veins: Zinci oxidi, calamine, carbolic acid, of each, two drachms; liquor plumbi subacetatis dilute, one and one half ounces; glycerin, three drachms; water, sufficient to make eight ounces. After two weeks' treatment, the pruritus disappeared and the patient never thought of his distended cutaneous veins. Three weeks later favorable changes in his heart and liver were manifest both to physician and patient.

I think this case to be interesting, first because of the rare occurrence of poisoning by digitalis, cases on record being few; the accumulative action of the drug being denied by some authors. Second, because of the therapeutical effect of barium chloride, serving as a precious auxiliary to an uncompensating heart, and showing its good effect in the treatment of varicose veins.

References.

1. *Comptes rendus de la Société de biologie*, Paris, iv, pp. 957-962, 1892.
2. *Sajous's Annual Cyclopædia*, i, p. 547.
3. *British Medical Journal*, 1883, ii, pp. 265-268.
4. *Lopes Méd. contemp.*, Lisbon, iv, p. 109, 1886.
5. *Courton. Revue d'hygiène*, Paris, iv, pp. 653-656, 1882.
6. *Carpenter, J. S., Medical News*, lix, pp. 93-95, 1891.
7. *White and Wilcox, Therapeutics*, iii, p. 153.
8. *Dr. Von Tabora, Deutsche medizinische Wochenschrift*, xxiv, 1903.

9 WEST ONE HUNDRED AND SEVENTEENTH STREET.

TWO CASES OF DOUBLE UTERUS.

By LESTER LAURENS ROOS, M. D.,

NEW YORK.

That anatomical anomalies are not uncommon in the pelvic organs of the female is strikingly demonstrated by the two cases which were seen within a period of eight weeks. In the first case to be reported it is easy to see that the case reported in the lay journals of superfœtation can easily be borne out.

CASE I.—M. E., thirty-six years old, married ten years; no children, but had four miscarriages; the first nine years ago; the second eight years ago; the third seven years ago; the fourth six years ago. All came on without any outside interference. She has been curetted twice. The menses began at fourteen years. They were irregular, coming on at intervals of five or six weeks. Before her marriage she had a dysmenorrhœa.

As advised by Robert, a solution of barium chloride was applied externally to varicose veins, but in both patients this treatment had to be abandoned as inefficient. This confirms Bartholomew's experience. I desire to mention, the dose of the barium solution was increased to two drachms after the second week of treatment.

Patient came to see me, complaining of pains in the lower portion of the abdomen, coming off and on; she also had pains in the back, increased at menstrual period, and had had leucorrhœa since marriage. For the past three weeks she had been flowing, and for the last three or four days had passed large clots.

Bimanual examination showed the following: A vaginal canal divided into two sections by a hard membranous wall ending between two cervixes. Two uteri could easily be felt, the left being soft and the right being enlarged to about the size of a two months pregnancy. The ovaries and tubes could be palpated easily. Examination by speculum showed the left cervical canal open and discharging bloody fluid, while the right was discolored and the canal slightly open. The examination in this case showed that an abortion had taken place in the left uterus, while the right one still was carrying the products of impregnation.

CASE II.—S. S., aged twenty-five years, married two years, no children, no miscarriages. Menses began at fifteen years; regular every four weeks, accompanied by dysmenorrhœa. She came complaining of severe pains in the abdomen, which were increased at menses. She was also curious as to the reason of her being sterile.

Bimanual examination showed a double vagina, as in the previous case, the vaginal canal being divided into two parts by a membranous band. The examination also showed a double cervix. The speculum revealed a normal cervix and cervical canal, while on the left side the cervix was normal and the cervical canal only rudimentary, the canal being only about one half an inch deep.

Both of these cases had been under the care of physicians for a long while, and in neither case was anything out of the way found on examination. This should bring forcibly to the mind of the general practitioner the fact that in gynecological cases, as in all other lines of medicine, a thorough examination should be made. The bimanual examination should always be supplemented by the speculum, and many cases which are now overlooked would be easily discovered by the examining physician.

233 WEST ONE HUNDRED AND THIRTEENTH STREET.

BITE OF THE OMBUTA (*CLOTHO ARIETANS*, GRAY), TREATED WITH POTASSIUM PERMANGANATE. RECOVERY.

By F. C. WELLMAN, M. D.,

ANGOLA, WEST AFRICA.

(Published Under the Imprimatur of the American Society of Tropical Medicine.)

In view of recent reports from India and elsewhere of experiences with the method of treating snake bites mentioned in the title of this paper, the following notes on a case occurring in West Africa may be of interest:

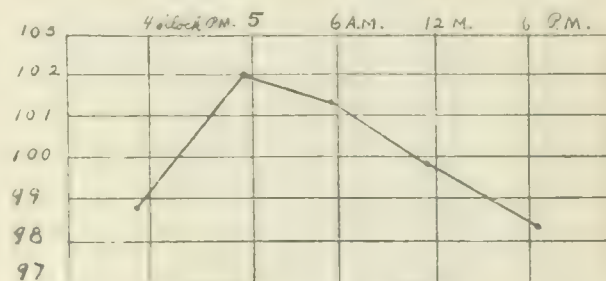
CASE.—A male negro, of the Chiyaka tribe (Bantu), twenty years of age, was bitten in the foot about half an hour before I saw him (3:25 p. m.) by an ombuta while felling a tree in the bush. He at once tied a piece of bark string tightly about his ankle and came with all haste to the "white doctor," who happened to be in the vicinity.

Status præsens.—The patient is howling with pain and all the natives about say he will die. On the dorsum of the foot are the marks of the snake's fangs.

They consist of two tiny parallel gashes about three millimetres in length. Considerable swelling is already seen in the foot, which also feels hot and dry. The patient says he is very thirsty. A thin, bloody fluid, which when tested shows an acid reaction, slowly exudes from the wound. Temperature, 99.8° F.; pulse, 92; respiration, 28.

Treatment.—I immediately excised the bitten place and dissected out a fair sized piece of the subcutaneous tissue beneath. The wound thus made was filled with crystals of potassium permanganisum purum and an aqueous solution of the same injected with a Pravaz syringe into the surrounding tissues. A piece of bichloride gauze was then applied and the foot loosely bandaged. The patient was well alcoholized, but no other internal treatment was given.

The leg continued to swell and the œdema soon reached to the knee, making it difficult for the patient to move his ankle. The wound oozed blood which seemed to lose, while passing through the tissues adjacent to the bite, its normal coagulating power, although the finger blood tested by Wright's method coagulated in about eight and a half minutes. I did not spectroscopically the blood oozing from the wound, but the bright red color was strikingly different from the dark sepia color seen in some cases of snake bite and suggested the appearance seen when carboxyhaemoglobin or cyanhaemoglobin are present. Haemoglobin (Gowers) estimated at 70 per cent.; red cells (Thoma-Zeiss), 4,500,-



ooo; leucocytes, 7,400. Blood slightly alkaline in reaction by Haycraft-Williamson method. After about an hour the patient began to vomit first food and later a bloody mixture. The temperature in the mean time had risen to 102° F. I thereupon made some microscopical examination of his blood, and three hours later found small malarial parasites (*Hæmomenas præcox*, Lav.). The red cells seemed unchanged by the poison, and the leucocytes normal. During the night the patient had a violent attack of epistaxis; and later stated that he had not slept on account of the pain in his leg.

The swelling the next morning was about the same as when I had last seen it at 9 o'clock the previous evening; temperature, 101.4° F. A peculiar jerky respiration with a sighing expiratory effort was also noticed. On examination the wound was found at this time to consist of a smallish, gray slough which spread rapidly for the next two days until it involved about half of the dorsum of the foot, exposing the sheaths of the tendons and other deep structures. The bones were not affected. The temperature fell to normal on the second day in the midst of this sloughing process. At the end of a week the slough was largely thrown off and satisfactory granulations appeared. The patient made an uninterrupted recovery, coming back two months later to show me the scar where the foot had healed.

The Snake.—*Clotho arietans*, Gray. Synonyms. *Bitis arietans*, *Vipera arietans*, eliuta, ombuta, liliuta (Bantu names), puff adder, cobra do matto. The

microscopical examination of his blood was found on retesting to be normal.

snake, rather badly mutilated, was brought to me, having been killed in a brush heap at the spot where the victim had been working. It measured 102 centimetres in length, and proved to be the well known and justly dreaded *Crothalia arietans* of South Africa. The natives are very much afraid of this snake, and tell many stories of people who have died from the effects of its bite. The case above reported is the only one which I have had the opportunity of carefully studying. There are several poisonous snakes in this district and many others concerning which fabulous stories are told. One of the most dreaded snakes, called by the blacks *ohakati*, I have not seen, but the descriptions given of it by natives and colonists seem to point to a horned viper similar in size and appearance to *Viper cerastes*. Native reports of snake bites are utterly untrustworthy.

Remarks.—Some points of interest in the above case are:

1. The loss of the coagulability of the blood after passing through the tissues at the seat of the bite.
2. The vomiting of blood (which, however, may have been due to violent retching) possibly from extravasation from the coats of the stomach. Such extravasations are attributed to the direct action of a special constituent of snake venom more abundant in the poison of the *Viperidæ* than in colubrine snakes.
3. The violent epistaxis.
4. The remote selective action of some ingredient in the venom noticed by its effect on the respiration.
5. The sloughing of the site of the puncture which cannot be attributed to the permanganate as it is a common feature in snake wounds.
6. The stirring up of a latent malarial infection and the finding of parasites in the blood.
7. The complete recovery.

Following are a few references which are available here and which I have examined for the sake of comparing my case with others:

References.

- Calmette, A., *Meuse's Handbuch der Tropenkrankheiten*, i, p. 300.
 Thorsal, B. B., *Indian Medical Gazette*, January, 1905.
 MacVicar, N., *Journal of Tropical Medicine*, v, p. 1.
 Rogers, L., *Indian Medical Gazette*, February, 1905.
Id., paper read at the British Medical Association, 1905.
 Scheube, B., *Diseases of Warm Climates*, p. 333.

Correspondence.

LETTER FROM TORONTO.

The Approaching Meeting of the British Medical Association.—A Visit from the Missouri Valley Medical Association.—Canadians at the Meeting of the American Medical Association in Boston.
 TORONTO, June 6, 1906.

As the time draws nigh, the Toronto profession seems to work harder in the perfection of arrangements to take care of all those who are expected to be at the seventy-fourth annual meeting of the British Medical Association, in this city, from the 21st to the 25th of August. Up to the present time the indications are that there will be between 300 and 500 from other parts of the British Empire, that the United States will contribute a contingent of about 300, and that Canada herself will turn out at least ten per cent. of her medical population of 6,000. It is stated that the government of Mexico will send an offi-

cial delegation; that Japan will; that several of the most distinguished physicians of Paris, Vienna, and Berlin will be present; and that there will be many eminent and famous practitioners and professors from Great Britain, Ireland, and the United States. Such will be the éclat of the occasion that all the chronic sick in Toronto and vicinity will be looking forward to a rapid recovery from the mere presence of the best doctors of medicine in the world. The headquarters of the meeting will be in the Toronto University buildings, and the meeting will be convened under thirteen sections, from 9:30 to 1 o'clock daily. There are to be three public addresses delivered, and of course entertainments will flourish like the scriptural green bay tree. Sir James Barr, of Liverpool, president of the Section in Medicine, will present the address in medicine, the title of which will be *The Circulation Viewed from the Peripheral Standpoint*. Dr. W. S. A. Griffith, of London, England, will deliver the address in obstetrics. Sir Victor Horsley will give the address in surgery, and there may be an additional public address by Dr. Marie, of Paris. Each morning clinics will be held at 8:30; this will constitute a clinical museum. The exhibitors' department promises to be a feature. This is in charge of Dr. Arthur Jukes Johnson, whose well known executive ability will not lag behind in making his department a pronounced success.

Among others who have promised to attend are the following: Professor T. Clifford Allbutt, of Cambridge; Dr. A. H. F. Barbour, of Edinburgh; Sir Thomas Barlow, Dr. Henry Barnes, Sir James Barr, Professor J. Rose Bradford, Sir William Broadbent, Sir Hector Clare Cameron, Dr. G. A. Gibson, Dr. W. D. Halliburton, Professor Osler, Dr. W. J. Mickle, Professor Sherrington, Professor Sims Woodhead, Dr. Delezenne, Dr. L. Lapique, of Paris; Professor Max von Frey, Professor Justus Gaule, of the University of Zurich, Professor J. P. McMurrich, Dr. Ross E. Garrison, Professor Minot, Dr. Stengel, Dr. W. J. Mayo, Dr. Elliott, Dr. Robinson, Dr. Beebe, Professor Jacques Loeb, Professor Brouardel, Dr. Leciaga, and Professor Aschhoff, the eminent German pathologist. The American Association of Pathologists and Bacteriologists has been formally invited to be present. The honorary local secretaries are Dr. F. N. G. Starr, Professor J. J. McKenzie, and Dr. D. J. Gibb-Wishart, any of whom may be addressed at the Medical Building, Toronto University, Toronto.

About two hundred members of the Missouri Valley Medical Association, en route to Boston on a special train to attend the annual meeting of the American Medical Association, "blew into" Toronto at 4:30 p. m. on Saturday afternoon, the 2nd of June. They were met at the Union Depot by a reception committee from the Ontario Medical Association, among whom were the president, Dr. George A. Bingham, past president, Dr. J. F. W. Ross, and general secretary, Dr. C. P. Lusk. Many automobiles were ready and the travelers were given a ride through the finest parts of Toronto and afterward entertained at the Medical Library in Queen's Park.

The party left at 10 o'clock for Kingston, the Thousand Islands, and Montreal. Many Toronto physicians met them at the Medical Library and gave them the glad and happy hand of fraternity of the medical profession.

Among the Canadian members of the medical profession who attended the meeting at Boston were the former president of the Canadian Medical Association, Dr. S. J. Tunstall, of Vancouver, B. C.; Dr. Charles Doherty, superintendent of the Provincial Hospital at New Westminster, B. C.; Dr. Ingersoll Olmsted, of Hamilton; and Dr. J. F. W. Ross, Dr. R. A. Reeve, Dr. W. A. Young, and Dr. C. J. C. O. Hastings, of Toronto.

Therapeutical Notes.

Modification of Trommer's Test.—Simrock, in *Münchener medizinische Wochenschrift*, describes a modification of Trommer's test which was introduced into Germany by an American, and is known there is Heinsche's solution. Its constituents are:

- R Cupric sulphate, 2.0 grammes;
Distilled water, { 15.0 grammes;
Glycerin, {
Five per cent. solution of potash, ... 150.0 grammes.

He considers that it possesses several advantages for the practising physician over the unmodified test.

Splenic Anæmia.—Bramwell treated a case of splenomegaly with ferri carb., grs. v. thrice daily, and exposure of the splenic area once daily to x rays. The spleen slightly diminished in size and the red blood count improved. In another case, boric acid in 20 grain doses in conjunction with quinine hydrobromate, grs. v., and tinct. ferri perchlor., min. x., allayed the febrile symptoms, and improved the general condition, but did not diminish the spleen. The temperature seems to have fallen in consequence of the exhibition of boric acid.—*The Journal of Tropical Medicine*.

The Action of Iodine in Necrosis of the Arteries Produced by Adrenalin.—Koronyi, in *Deutsche medizinische Wochenschrift*, describes his experiments on twenty-three rabbits, twelve receiving hypodermic injections of adrenalin, eleven of adrenalin and iodine. While the animals were kept in the same conditions one of each group was killed at the same time, at certain intervals. The difference of the findings of the autopsies was well marked. The aortas and arteries in the first group showed a general degeneration, while the second group showed more or less normal vessels. The conclusion may be drawn that the bad effects of adrenalin upon the arteries may be overcome by the use of iodine.

Epithelioma, a Case of Papillary.—Schwarz, in *Virchow's Archiv*, clxxv, 3, gives the results of his studies in detail and an extensive bibliography on the subject. The case of the author was a rapidly growing epithelioma of papillary character in a man sixty years old, which on ac-

count of its hornification, was related to the can- croids, and on the other hand, owing to a partial calcification, belonged to the type of calcified epitheliomata. An extensive organization of pre- viously inflamed tissue took place in a remark- ably short space of time and was interpreted as partial spontaneous healing. Numerous foreign body giant cells were present, of connective tis- sue, but also in part of epithelial nature. The tumor probably had its origin in an atheroma.—*Through The Journal of Cutaneous Diseases*.

The Treatment of Gout.—Professor Minkow- sky, of Cologne, in *Deutsche medizinische Wochenschrift*, states that in treating an acute attack of gout, after a purge, the following prescription will be found of good service:

- R Tinct. colchici, m. xx;
Potassii citratis, gr. xx;
Aq. chlor. form., 5i.
S. Two tablespoonfuls to be taken every four hours until pain ceases.

Or:

- R Tinct. colchici, m. xx;
Tinct. belladonnæ, m. v;
Tinct. cimicifugæ, m. vi;
Potassii bicarbonatis, gr. xii;
Inf. gent. comp., ad 5i.
S. Two tablespoonfuls to be taken every four hours until the pain ceases.

The Treatment of Diphtheria.—Professor Bourget, of Lausanne, is not a follower of the serum treatment of diphtheria. He reserves the antitoxine for the most serious cases, and uses local treatment, which consists in painting the throat and fauces with a solution of ferric chlor- ide:

- R Ferric chloride, {
Powdered alum, { 2.0 grammes;
Boric acid, {
Glycerin, 20.0 grammes.

Even the youngest child will well stand the swabbing, while elder children should also gar- gle with:

- R Tincture of krameria, {
Tincture of guaiac, { 50 grammes.
S. A teaspoonful in a glass of warm water. To be used as a gargle every hour.

Bourget has found this treatment very success- ful; the improvement, he claims, is rapid. From 1899 to 1905 547 cases of diphtheria came under observation; 367 were treated without injections (2 deaths), and 180 with injections (14 deaths).—*Therapeutische Monatshefte*, January, 1906.

Morphine Not to Be Used in Cocaine Poisoning.—Reviewing the treatment of cocaine poisoning, M. Vaillard (*Archives de médecine et de pharmacologie militaires*, 1905, No. 9) condemns the use of mor- phine. His conclusions are: (1) There is no antidote to cocaine poisoning. (2) Authorities do not favor the use of narcotics in this condition. (3) There is no evidence that morphine has any neutralizing effects to warrant its use as an anti- dote in a case where an overdose of cocaine has been taken; and under such circumstances it is not merely of doubtful benefit, but really is posi- tively dangerous. (4) The administration of morphine in a case reported did not prevent

death, but may have exerted a modifying effect upon the terminal convulsions.

The Management of Angina Pectoris.—O. Burwinkel, of Bad Nauheim (*Berliner klinische Wochenschrift*, April 30, 1906), discusses the pathology and treatment of angina pectoris. This disease is generally understood to be a peculiar feeling of oppression and agony in the cardiac region, which appears in paroxysms; and is usually accompanied by more or less severe pain. The pains are under the sternum, and usually radiate along neighboring nerve trunks, and especially in the distribution of the left cervicobrachial plexus. True angina is to be distinguished from nervous, or vasomotor, or false angina. The latter is sometimes of toxic origin, and sometimes, though rarely, of neurotic origin. Thus, we hear of so called tobacco alcohol angina, or from the effect of excessive tea drinking, but a much larger number of such cases are caused by disturbances of digestion. True angina, on the contrary, is always symptomatic of disease of the coronary arteries, as pointed out by Heberden and Parry, the earliest observers of this affection. Huchard declared more than ten years ago that there is only one angina pectoris, and that is *angina coronaria*. In fact, as experience has shown, the coronary arteries are remarkably frequently the site of sclerotic processes, although in some cases such pathological change is unaccompanied by angina, probably for some individual and anatomical reason. It is noted that this is found most frequently in the Jewish race, which seems especially subject to arteriosclerosis. The disease is much more prevalent in men than women, and occurs most frequently in middle and advanced life. As regards ætiology, syphilis occupies the chief place among the influences which favor the early development of sclerosis. This is more especially observed in patients who have been energetically treated with mercury and the iodides, especially after going through such a course once or several times. In the next rank come obesity, diabetes, and gout, which are well known to favor the development of arteriosclerosis in general, and coronary sclerosis in particular. Many patients are corpulent, and some of them have taken remedies for obesity and fatty heart. It has been observed that immediately after a fat reducing course of treatment stenocardiac disturbances develop. In every case of angina pectoris it should be the rule to carefully and repeatedly examine the urine. Very often sugar and albumin will be found. Aortic disease plays an important rôle in the genesis of angina pectoris, whether the valvular affection is due to rheumatism and occurs in the course of a polyarthritis, or is the result of a local sclerotic process. In a number of the reporter's cases (fourteen per cent.) he found coronary angina combined with valvular aortic defect, and these, as the rule, occurred in persons under fifty years of age. Among the infectious diseases, influenza stands prominently forward for its influence in the development of angina pectoris. Heredity has been thought by Neubürger to be a predisposing cause, but Burwinkel was unable to confirm this from his own experience. In the diag-

nosis the Röntgen ray will be useful to distinguish an aortic aneurysm from a case of angina pectoris. It is characteristic that in angina retrosternal pains appear in persons who have never presented any preceding symptoms relating to the heart. The paroxysms are brought on by exertion, and are usually absent during rest, although they may be excited by eating a meal. Contrary to many observers, the author always found irregularity or slowing of the heart beat, sometimes it is more rapid, sometimes slower than normal. The heart sounds are modified and have a foetal character. The prognosis is always unfavorable; in cases of pure coronary sclerosis the heart may suddenly cease its action from stenocardia; while in cases in which there is valvular disease death occurs gradually from defective compensation. The treatment is dependent upon the condition present in each case. In the stenocardiac condition the best remedy is a morphine injection, from which the reporter had never seen any ill results. This may be accompanied by a diffusible stimulant. Local applications of mustard leaves, hot compresses, or blisters to the cardiac region are often useful. The inhalation of five drops of amyl nitrite, until the features are reddened, will often cut short an attack. Nitroglycerin also will prevent light cases. During the interval the treatment should be directed towards the avoidance of everything that excites the heart to increased action, and which leads to higher blood pressure. At the beginning of treatment it is of great importance to give the patient several weeks' absolute rest in bed, upon an exclusive milk and vegetable diet. At all times the patient must be cautioned to avoid excitement, hasty movements, and sudden changes of temperature. A vegetarian diet is the best, since it tends to reduce the viscosity of the blood. The evening meal should be light. It is not necessary in every case to strictly forbid the use of alcohol and tobacco. The medical treatment consists in the use of the iodides, which should be taken systematically and for a long time. The combination of chloral hydrate or potassium bromide with the iodide is often advantageous. Diuretics are of value, especially sodium theobromine salicylate in doses of 0.5 grammes (gr. viii) several times a day. Small doses of podophyllin, or of quinine hydrobromate, may be combined with the latter to overcome constipation or nervousness. Digitalis and caffeine often alleviate the heart's condition. The application of leeches has a good effect in withdrawing blood from the venous system and reducing the viscosity of the blood so that it will pass more readily through the stenosed coronary vessels. In using the cure at Nauheim, caution is advised not to subject the body to shock, but to gradually pass from the mild to the stronger sprudel baths. Care is to be taken also during the bath not to inhale the carbon dioxide. In this way bad results are avoided and the patient can receive great benefit from the treatment. In winter the patient is advised to live in a mild, sunny climate, and by the use of massage, alcohol frictions, and foot baths to maintain the peripheral circulation.

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THE CARE OF THE INDIGENT INSANE.

There are two propositions that medical men, if they think about the subject of insanity at all, must admit are fundamental: First, that the insane person is sick; and, second, that a sick person ought to be cared for by a physician. There is in Pennsylvania a tendency on the part of the State Board of Public Charities to return to the old method of county care of the insane poor, by which these unfortunates are kept in almshouses under the supervision of untrained wardens or supervisors. This reactionary policy is due to the overcrowded condition of the State hospitals for the insane and the lack of appropriated funds for the extension of the accommodations for this class of patients. At the meeting of the Association of Trustees and Physicians of the State and Incorporated Hospitals of Pennsylvania, which was held in Philadelphia on May 17th, Dr. John B. Chapin read an excellent paper in which he traced the history of the establishment and growth of the State hospitals for the insane and the present reactionary policy of the Board of Public Charities. Dr. Chapin said that we had a right to urge, for instance: First, that the care of the insane should be distinct and separate from that of those in the county poorhouse who are not insane; second, that the insane should be regarded as subject to a condition of disease for which they ought to be placed under the care of physicians, and not so called wardens or keepers, who were too often selected and changed solely according to the dictates of political influence, and not for any special fitness; third, that it

should be obligatory upon all judiciary or county officers having to do with the insane to commit every such case to a hospital, and that it should not be legal to transfer the acutely insane or those who might probably recover to a county poorhouse under any circumstances. In justification of these principles he appealed confidently to the judgment of the medical profession of the State and to all benevolently disposed persons.

These three cardinal principles may be unhesitatingly subscribed to by the medical profession. We hope to see the great State of Pennsylvania progress in its policy relating to its insane poor rather than to witness a retreat from a position to which modern conditions and scientific observation have carried the therapeutics of mental disease.

THE IODINE AND PHOSPHORUS OF THE
THYROID GLAND.

Dr. Aeschbacher (*Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, xv, 3, 4; *Becker's klinische Wochenschrift*, February 12th) has investigated the influence of various conditions on the amounts of iodine and phosphorus contained in the thyroid gland. He finds that the colloid substance of the gland is the chief seat of the iodine, the amount of which varies decidedly in individual cases. But it is not exclusively in the colloid that the iodine resides; the thyreoalbumin of the follicular cells appears also to contain the element. In countries in which goitre is endemic the amount of iodine contained in the thyroid is somewhat greater than in regions that are entirely free from the disease.

In simple hypertrophy of the thyroid no such increase of the amount of phosphorus is observed as in cases of pronounced colloidal goitre; the amount is chiefly dependent on the relative richness of the gland in nuclei, and secondarily on the proportion present in the colloid. If there is a good deal in the colloid, the total amount in the gland may be comparatively large even if there are but few cells. There seems to be a certain connection between the age of the individual and the amount of iodine; in children and in the aged there is less iodine than in middle life.

The thyroid gland is larger in women than in men, and, unlike other investigators, Aeschbacher has found it richer in iodine. The reverse, however, is the case with the phosphorus. In the majority of cases of acute infectious disease the colloid is diminished and relatively poor in iodine. In tuberculous disease the absolute amount of iodine is diminished, but it maintains its proportion to the size of the gland, which

tends to become atrophied and sclerotic. Diseases which cause circulatory disturbances have a decided tendency to reduce both the relative and the absolute amount of iodine, but they do not seem to have that effect on the phosphorus.

Chronic alcoholism appears to reduce both the amount of iodine and that of phosphorus. In cancerous and sarcomatous cachexia no notable atrophy of the thyroid takes place, but in such cases there is a certain increase of the proportion of iodine. The medicinal use of iodine or its compounds increases the amount of iodine in the gland. This is especially true of the internal administration of potassium iodide.

BLOOD CHANGES IN CONNECTION WITH CERTAIN TUMORS.

A rather curious investigation in gynæcological practice has been made by Dr. T. Leisewitz (*Zeitschrift für Geburtshilfe*, lvi, 3; *Semaine médicale*, March 21st), relating to changes in the composition of the blood in cases of certain pelvic tumors. His observations were made in a hundred and fifty cases, chiefly those of uterine and ovarian tumors. Though the hæmoglobin was found reduced in amount in 42.9 per cent. of the cases of myoma, the diminution was for the most part attributed to hæmorrhages, so that the author thinks that the mere existence of myoma does not in itself tend especially to the production of such a result. If the proportion of hæmoglobin is reduced to not more than a third of the normal amount, the prognosis in the event of an operation seems to be grave; at least, one of two patients who showed such a reduction died after operative intervention.

As regards the number of red corpuscles, it was diminished in 77.8 per cent. of the cases of myoma, and the loss did not always seem to be connected with hæmorrhages. On this account the presence of a myoma is interpreted as having a direct effect in hindering the formation of erythrocytes. In 44.4 per cent. of myoma cases the number of white corpuscles was increased, probably by reason of methæmorrhagic leucocytosis occurring as a feature of a natural conservative process. However, in women who have been rendered extremely anæmic by hæmorrhages the leucocytes may be decreased in number, and the decrease is of very grave import, for it shows that the system has lost its defensive capacity.

In 24.1 per cent. of twenty-nine cases of ovarian cystoma there was a slight reduction of the amount of hæmoglobin. In 79.3 per cent. of the same cases the red corpuscles were diminished in number, and the diminution seemed to bear

no relation to the size of the tumor. There was increased production of leucocytes in about half the cases, but Leisewitz did not observe hyperleucocytosis attributable to torsion of the pedicle.

In seventeen cases of cancer of the uterus, all that were investigated, there was invariably an early occurrence of reduction of the amount of hæmoglobin and of the number of red corpuscles. In the seven cases of ovarian cancer examined the decrease of hæmoglobin and the hyperleucocytosis were more frequent than in the cases of ovarian cyst. These phenomena, therefore, are of some diagnostic importance.

PULMONARY GANGRENE AFTER INCOMPLETE DROWNING.

The troubles of a person who has been partly drowned do not always terminate with resuscitation. Complications often occur, especially in the bronchial tubes and the lungs, and frequently it is only after a number of days that they make their appearance, as is remarked by Dr. André Bergé (*Bulletins et mémoires de la Société médicale des hôpitaux de Paris*, May 3rd). Many a man who leaves a hospital to all appearances restored has to seek for admission again on account of some morbid condition which is the late result of the submersion. M. Bergé gives the history of an interesting case in point.

A woman, thirty-one years old, employed in a business house, was manifestly affected in her mind, having had several attacks of melancholia and having, a few months before her attempted suicide by drowning, drawn a pistol on her lover. She threw herself into the Seine at about midnight on the 30th of January. She was able to swim, and contact with the very cold water caused her to change her mind and try to save herself. However, before she could reach a place of safety she sank and became unconscious. On her revival, the last thing she could remember was a violent pain in the chest. At the rescue station she vomited a certain amount of water tinged with blood. She was received into the Laennec Hospital at about four o'clock in the morning. At that time her face was congested and her mind was still decidedly clouded.

At the morning visit she was perfectly conscious, but very reserved, especially as to the causes that had led to her suicidal attempt. Her thyroid gland was notably enlarged, and she had previously been treated for it, but there was no other sign of exophthalmic goitre. She was menstruating at the time, and she complained of pains in the loins and at a point on the right side. She had a dry cough, rather frequent of access,

but nothing abnormal was detected on auscultation. There was a large ecchymosis of the left eye, testifying to the asphyctic congestion of the face. Her temperature was 99.8° in the morning and 101.3° in the evening. It was supposed that she had incipient acute bronchitis.

In the course of two days more there were graver pulmonary signs at the base of the right lung, dulness, pain, and fine subcrepitant râles, and the temperature was still higher. In a week more the fever had abated and the woman's general condition was improved. Four days later she was still further improved and was already thinking of leaving the hospital. But in a few days the temperature suddenly rose and the base of the left lung was found to be affected. Her condition grew more and more serious, and at the end of four weeks from her submersion her breath was extremely foetid. Her sputa, grayish, frothy, and mucopurulent, had the same putrid odor, so that a room was set apart for her and a window by her bedside kept open night and day. For more than a week longer the foetor continued, though it was sometimes intermittent, and the expectoration was abundant. Then she began to improve, and on the 10th of April she was discharged in excellent general condition.

THE VALUE OF SKEPTICISM.

It may be wondered if we shall ever know the real sequence of events in normal and pathological processes. Scientific persons, like other human beings, are prone to attribute unexplained phenomena to factors that have been proved to be active in the production of analogous phenomena. For example, in a recent editorial we suggested that smallpox might in the future be shown to be disseminated by the bite of some insect. In another we referred to experiments which appeared to show that the hypertrophy of the mammary glands occurring during pregnancy was due to the circulation of an internal secretion in the blood and that the establishment of lactation was due to the discontinuance of this internal secretion. Only a few years ago the theory of the spread of infectious diseases by fomites was considered satisfactory and the theory of the secretion of milk by the influence of secretory nerves was accepted as proved. In a few years more we may be obliged to abandon our theories of internal secretions and some of our other hypotheses. Let us, therefore, be charitable to those among us who do not accept and adopt new theories at once. Presumably the object of every investigator is to arrive at the truth. The honest doubter should never be derided, but his doubts should be overcome, if

possible, by calm reason. The time expended in reasoning with the doubter may be valuable in clearing our own ideas respecting the subject discussed.

EXPERIMENTAL VARIOLA AND VACCINIA.

The excellent work done concerning the ætiology and pathology of smallpox in the Boston epidemic of 1901 to 1902 by Councilman, Magrath, Brinckerhoff, Tyzzer, Southard, Thompson, Bancroft, and Calkins (*Journal of Medical Research*, February, 1904) resulted in the discovery of the fact that focal necroses in the bone marrow and in the testicle were characteristic lesions of variola vera in man, and in the further discovery that the *Cytoryctes variolæ* of Guarnieri was constantly present in the lesions. At that time experiments on monkeys were begun which had for their object the increase of our knowledge concerning the occurrence and distribution of the cytoryctes, as well as concerning the course of the disease in that animal. Brinckerhoff and Tyzzer (*Philippine Journal of Science*, April, 1906) have continued the experimental studies of vaccinia and variola in the Philippine Islands, under more suitable environment. The authors consider, first, experimental vaccinia in the Philippine monkey (*Macacus cynomologus*); second, experimental variola in monkeys (*Macacus cynomologus* and *Macacus nemestrinus*) and in the orang outang (*Simia satyrus*); third, the immunity reactions of the monkey after inoculation with vaccine and with variola virus; fourth, the occurrence of *Cytoryctes variolæ* in experimental variolous and vaccinal lesions; and, fifth, the reactions of variola virus to certain external conditions.

In general, the experiments may be said to confirm the results obtained in the study of the epidemic in Boston in 1901 and 1902. The surroundings were, of course, more favorable because the monkeys employed in the experiments did not suffer from the ill effects of a strange climate. The orang outang, on the other hand, not being native to the Philippine Islands, did not give such good results, on account of the difference in the climate. The Philippine monkey is susceptible to vaccinia, and the disease is quite like that seen in man and the other susceptible animals. The inoculation of the skin of the monkey and the orang outang with smallpox virus from various sources produces a disease which, in all essential characteristics, is identical with variola in man. It differs in that the exanthem appears at an earlier date, eight days after the inoculation, and the fever is of shorter duration, beginning on the sixth day after inoculation and

falling by lysis in two or three days. In man the exanthem begins on the eleventh day, and the rise of temperature persists from the seventh to the ninth days.

Inoculations of the cornea and of the mucous membranes produces a disease of similar character to that following the inoculation of the skin. Efforts were made to produce variola vera in monkeys and in the orang outang by inoculating the tracheal epithelium through a tracheotomy wound and without the production of a tracheotomy wound, by causing the animals to inhale a spray of the contents of a variola vesicle. by inoculation of the lung through the inhalation of dry variola virus, and by exposing them to smallpox fomites and to a smallpox patient. Inoculation of the trachea and inhalations of variola virus produce variola inoculata, but not variola vera. Exposure to fomites and to a smallpox patient produces no recognizable form of variola. It was found impossible to produce a disease resembling variola vera in monkeys or in the orang outang, although one of the latter animals did have an exanthem and areas of focal necrosis of a variolous nature in his seminal vesicles. The immunity experiments showed that the immunity conferred by vaccinia was stronger and more fully protective than that produced by variola inoculata, that the virus of vaccinia was more potent than that of variola, and that it was easier to produce immunity to variola inoculata than to vaccinia.

THE OCCURRENCE OF CYTORYCTES VARIOLÆ IN EXPERIMENTAL LESIONS.

The cytoplasmic forms of *Cytoryctes variola* were found constantly by Brinckerhoff and Tyzzer in all specific lesions resulting from inoculation with variolous or with vaccine virus. They appeared in the primary lesions of both variola inoculata and vaccinia soon after the inoculation. They persisted in the primary skin lesions for about eight days after the inoculation, at which time immunity was established and repair had begun. In variola inoculata the exanthem, as well as the primary lesions, contained cytoplasmic forms. Intranuclear forms were found in lesions resulting from the inoculation of the monkey with variola virus, but not in those produced with vaccine virus. These structures are, therefore, considered specific for variola. Other nonspecific nuclear inclusions occur in vaccinia, in variola, and in other nonrelated processes. The nuclear forms of cytoryctes, which were found only in small numbers in the primary skin lesion of variola inoculata in the monkeys, were

present in far greater numbers in the corresponding lesions of the orang outang. Intranuclear forms were only occasionally found in lesions of the general eruption following the inoculation of the skin of the monkey with variola virus, but were very numerous in the eruption which followed the intravenous injection of the virus into the tail vein, with subsequent amputation of the tail in front of the point of inoculation. This eruption resembled in this, as well as in other respects, that of variola vera in man. The occurrence of cytoryctes in the cells of the corium, and especially within the endothelium of the vessels, suggests a possible method of dissemination of the organism in the production of the exanthem. However, endothelial cells containing cytoryctes were also found in a few instances in the lesions of vaccinia, a disease hardly ever accompanied by a general eruption. The occurrence and the distribution of the specific inclusions are best explained by the hypothesis that the organisms are parasites and that as such they are the cause of the disease.

TUMORS OF THE CEREBRUM.

The April-May number of the *University of Pennsylvania Medical Bulletin* is devoted to a series of papers on tumors of the cerebrum similar to the series on tumors of the cerebellum, published in the *New York Medical Journal* for February 11 and 18, 1905. Dr. Charles K. Mills contributes a paper on The Focal Diagnosis of Operable Tumors of the Cerebrum. Dr. George E. de Schweinitz writes on The Ocular Symptoms of Tumor of the Cerebrum. Dr. Charles H. Frazier treats of The Surgical Aspects of Operable Tumors of the Cerebrum. This group of papers is a valuable addition to the literature of cerebral tumors and may be studied with much profit as well by the general practitioner as by the specialist.

Obituary.

WILLIAM DUFF BULLARD, M. D.,
OF NEW YORK.

The recent death of Dr. Bullard, at the early age of thirty-four, deprives the profession of a most promising young surgeon and of a genial and lovable man. He was a native of New York and a graduate of the College of Physicians and Surgeons (Medical School of Columbia University), of the class of 1895. He held a number of clinical appointments, in all of which he won the praise of his associates.

News Items.

NEW YORK CITY AND STATE.

Personal.—On Wednesday evening, June 20th, the Notre Dame University, of New York, conferred the Laetare medal on Dr. Francis J. Quinlan, president of the Catholic Club of the City of New York.

The Society of Physicians of the Village of Canandaigua, N. Y.—The programme for a meeting held on Thursday, June 14th, included a paper on The Effect of Chloroform and Artificial Light in the Operating Room, by Dr. George W. McClellan.

The Syracuse Academy of Medicine.—The following programme was arranged for a meeting held on Tuesday, June 19th: A Case of Ureteral Calculus, Dr. H. O. Brust; Reminiscences, Dr. Alfred Mercer; Observations on Some of the Infections of Infancy, Dr. E. J. Wynkoop; Extrauterine Pregnancy, Dr. F. W. Sears.

The Buffalo Academy of Medicine.—At the annual meeting held on Tuesday, June 12th, officers were elected for the ensuing year as follows: President, Dr. Charles S. Jewett; treasurer, Dr. William Irving Thornton; trustee, Dr. Grover W. Wende. After the annual address had been delivered by the retiring president, Dr. Herbert U. Williams, an informal supper was served at the Lafayette Hotel.

The Medical Society of the County of Livingston, N. Y.—At the annual meeting held at Geneseo on Tuesday, June 12th, the society was reorganized in conformity with the laws of the amalgamated State Society. A change was made in the date of the annual meeting, which will hereafter be held on the second Tuesday in October, at which meeting officers will be elected, those now in office holding over until that date.

The Plattsburgh (N. Y.) City Hospital.—The board of trustees of the Plattsburgh City Hospital have found that many persons of the villages and towns in the Champlain valley are under the impression that the new hospital is being erected for the people of the city of Plattsburgh especially, and with a view to correcting this impression, which is entirely erroneous, they have practically decided to change the name to that of the Champlain Valley Hospital.

The Medical Society of the County of Otsego, N. Y., held its semiannual and centennial meeting at Cooperstown, on Tuesday, June 12th. The programme included the following papers: History of the Otsego County Society, by Dr. H. W. Boorn, of Schenectady; What We Owe Our Obstetrical Patients, by the vice-president of the society, Dr. James Burton, of Cooperstown; Wound Infection and Disinfection, by Dr. M. Latcher, of Oneonta. This paper was discussed by Dr. H. D. Sill, of Cooperstown, and Dr. A. W. Cutler, of Oneonta.

The Centennial of the Medical Society of the County of Ulster, N. Y., will be celebrated at Kingston on Tuesday, June 26th, when the following programme will be presented: Introductory remarks, Dr. E. E. Norwood, Kingston; The Advancement of Medicine and Surgery During the Past Century, Dr. Albert Vander Veer, Albany; Expert Medical Testimony, the Honorable John J. Linson, Kingston; The Physician in Politics, the Honorable G. D. B. Hasbrouck, Kingston; History of the County Society, Dr. E. H. Loughran and Dr. A. H. Mambert, Kingston. The following are the officers and committees of the society: President, Dr. E. E. Norwood, Kingston; Vice-president, Dr. David Mosher, Marlborough; secretary, Dr. Mary Gage-Day, Kingston; treasurer, Dr. Elbert H. Loughran, Kingston; censors, Dr. C. V. Hasbrouck, Rosendale; Dr. Luther Emmerick, Saugerties; Dr. Adelbert H. Mambert, Kingston; Dr. Daniel Connelly, Kingston; Dr. Frederick Huhne, Kingston; delegates to the Medical Society of the State of New York, Dr. Henry von Hovenberg, Kingston; Dr. James L. Preston, Kingston; delegate to the third district branch, Dr. Alexander A. Stern, Kingston; committee on legislation, Dr. Aden C. Gates, Kingston; Dr. Rufus Crawford, Saugerties; Dr. J. S. Robinson, Kingston; committee on public health, Dr. W. D. Hasbrouck, Kingston; Dr. A. S. Vrooman, Kingston; Dr. R. R. Thompson, Kingston.

The Late Dr. Louis A. Weigel.—At a special meeting of the Rochester Academy of Medicine, held at Rochester, N. Y., on June 1, 1906, the following was unanimously adopted: By the untimely death of Dr. Louis A. Weigel the Rochester Academy of Medicine loses its president and one

of its charter members. Each fellow of the academy has lost a personal friend and a valued consultant. Though but fifty-two years of age Dr. Weigel had achieved a degree of professional success and honor accorded to but few. He was a specialist in the best sense of the word, for he had become such after years of general work and special preparation, so that as a diagnostician his outlook was never limited to the field of his specialty. His reputation extended far beyond Rochester, for he had great mechanical skill as well as surgical knowledge and devised apparatus which is now used by orthopaedic surgeons all over the world. The appreciation of his merit by the profession in general and by his fellow specialists has been shown by his election to the presidency of the American Orthopaedic Society, by his appointment as professor of orthopaedic surgery in Niagara University, and by his position as consultant at the New York Hospital for Crippled Children and at Craig Colony. Dr. Weigel lived his whole life in Rochester, except for the time spent in the medical department of the University of Maryland. He accomplished much, not only because of special aptitude, but because he was a tremendous worker. Besides attending to his private practice he has for many years cared for those needing his special skill in the wards of the Rochester City Hospital and of St. Mary's Hospital, and in the free out-patient department of the City Hospital. His hospital work was always done with the same care and interest as was his remunerative work, and much that he did outside the hospital brought little or no pecuniary reward. As a member of the medical societies of Rochester, Dr. Weigel was of the greatest value to others in pointing out important preventive measures and diagnostic signs, and he was always ready to take his full share in the work at society meetings. Dr. Weigel was a pioneer in the use of the Röntgen ray as an aid in diagnosis and as a therapeutic agent, and his unfortunate death may have been due to the prolonged irritation resulting from his continued peculiar professional work. He excelled not only because of his technical skill in photography, acquired years before, but largely on account of his artistic temperament. The fortitude he displayed in enduring the keenest of anguish and the moral courage he showed in facing the inevitable, brought out the high character of the man. His last months were brightened by the joy he found through the manifestation of the deepest human sympathy and the appreciation of his professional brethren. It is with a profound sense of sorrow that we meet to do honor to his memory, and we extend to his family our sincere sympathy in their bereavement. Henry T. Williams, secretary.

Society Meetings for the Coming Week:

MONDAY, June 25th.—Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

TUESDAY, June 26th.—New York Medical Union (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynaecology); Richmond, Va., Academy of Medicine and Surgery; Rome, N. Y., Medical Society.

WEDNESDAY, June 27th.—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; New York Dermatological Society (private); American Microscopical Society of the City of New York; Philadelphia County Medical Society; Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society (Pittsfield).

THURSDAY, June 28th.—New York Academy of Medicine (Section in Obstetrics and Gynaecology); New York Orthopaedic Society; New York Celtic Medical Society; Brooklyn Society for Neurology; Pathological Society of Philadelphia; Church Hill Medical Society of Richmond, Va.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Health Department, for the following statement of new cases and deaths reported for the two weeks ending June 16, 1906:

| | June 16. | | June 9. | |
|-------------------------------|----------|--------|---------|--------|
| | Cases | Deaths | Cases | Deaths |
| Typhoid fever..... | 38 | 6 | 23 | 8 |
| Smallpox..... | 4 | .. | 1 | .. |
| Scarlet fever..... | 108 | .. | 96 | .. |
| Measles..... | 669 | 30 | 808 | 31 |
| Whooping cough..... | 133 | 10 | 188 | 10 |
| Diphtheria..... | 58 | 3 | 51 | 7 |
| Scarlet fever..... | 297 | 26 | 312 | 43 |
| Tuberculosis pulmonalis..... | 416 | 157 | 378 | 174 |
| Cerebrospinal meningitis..... | 14 | 14 | 21 | 22 |
| Totals..... | 1,737 | 246 | 1,881 | 295 |

PHILADELPHIA AND THE MIDDLE STATES.

Charitable Bequests.—By the will of Marie A. Stark, St. Vincent's Orphan Asylum and St. Mary's Hospital receive \$50 each.

The Annual Meeting of the Priestly Club of Philadelphia was held in the John Harrison laboratory of chemistry, University of Pennsylvania, on June 9th.

The Annual Meeting and Banquet of the Veterinary Alumni Society of the University of Pennsylvania was held at the Rosedale Inn, Essington, Pa., on June 13th.

Personal.—Dr. A. O. J. Kelly, of Philadelphia, has been made editor of the *American Journal of the Medical Sciences*. Dr. Warfield T. Longcope, of Philadelphia, has been made editor of the *International Clinics*.

Temple College Medical Department Commencement, Philadelphia.—The commencement exercises of the Medical Department of the Temple College were held on May 12th. Fourteen students received the degree of doctor of medicine.

Tablet to the Memory of Dr. Charles J. Essig.—At the twenty-sixth annual business meeting of the Dental Alumni Society of the University of Pennsylvania, a bronze tablet was placed in Dental Hall to the memory of Professor Charles J. Essig, late professor of mechanical dentistry and metallurgy.

The Allentown (Pa.) Hospital.—The tenth annual report of the Allentown Hospital shows that during 1905, 679 surgical cases and 233 medical cases were treated. There were 442 surgical operations during the year. There were 63 deaths or 6.9 per cent. During 1905 nine nurses were graduated from the training school.

Scientific Society Meetings in Philadelphia for the Week Ending June 30, 1906.—Tuesday, June 26th, Philadelphia Neurological Society. Wednesday, June 27th, Philadelphia County Medical Society. Thursday, June 28th, Pathological Society. Friday, June 29th, South Branch, Philadelphia County Medical Society. The only scientific meeting in July and August will be the meeting of the Medicolegal Society, on July 31st.

The University of Pennsylvania Commencement.—The one hundred and fiftieth commencement of the University of Pennsylvania was held in Philadelphia on Wednesday, June 13th. Portraits of Dr. Charles Bingham Penrose and Dr. Harrison Allen were presented to the university. The oration was delivered by Professor John Bach McMaster, professor of American history. The degree of Doctor of Medicine was conferred upon one hundred and two candidates.

The New Jersey Pharmaceutical Association met at Atlantic City, on June 7th and 8th. A collation of the pure food laws was ordered so as to enable druggists to avoid conflict with the authorities through ignorance of statutory requirements. A committee was appointed to defend the druggists of the State against unfair accusations in the public press. A proposal to raise the standard of requisite educational qualification for pharmacists' licenses was defeated on the ground that it would still further reduce the already inadequate supply of clerks. The following officers were elected: President, P. E. Hommell, Jersey City; first vice-president, H. H. Deakyn, Atlantic City; second vice-president, Louis E. Feindt, South Orange; secretary, Frank C. Stultzer, Elizabeth; treasurer, James C. Field, Somerville; executive committee, William F. Ridgway, Atlantic City; George M. Andrews, Woodstown; Eugene Bartlett, Jersey City; Charles Wuensch, Newark; legislative committee, George M. Beringer, Camden, and H. P. Thorne, Medford.

The Eighty-ninth Annual Report of the Friends' Asylum for the Insane has just been distributed. During the year 274 patients have been treated, 113 men and 161 women. Of these 25 were discharged recovered, 9 much improved, 25 improved, 32 unimproved, and 18 died, leaving 165 in the institution at the end of the year. Miss Clara H. Town, the resident psychologist, has been conducting an investigation of the mental condition giving rise to and accompanying hallucinations. One on the form of association of ideas prevalent in the diverse states of insanity, one on the power of thought concentration, of continued application and of voluntary attention; and one on the effect of habit and fatigue. During the year \$1,260 was received from the income of a trust fund founded by Isaiah V. Williamson, and a legacy

of \$5,000 was received from the estate of Charles W. Trotter for the establishment of a free bed. At the commencement of the training school, which was held on June 14, 1905, the diploma of the school was presented to Miss M. Bertha Bratton, Miss Bessie F. Catherman, Miss L. Edith DeLancey, Miss Dora M. Larkin, and Miss Elsie M. White.

The Health of Philadelphia.—During the week ending June 9th, the following cases of transmissible diseases were reported to the Bureau of Health:

| | Cases. | Deaths. |
|---------------------------|--------|---------|
| Malaria | 1 | 0 |
| Typhoid fever | 180 | 24 |
| Scarlet fever | 23 | 1 |
| Chickenpox | 24 | 0 |
| Diphtheria | 70 | 7 |
| Cerebrospinal meningitis | 12 | 3 |
| Measles | 212 | 3 |
| Whooping cough | 69 | 9 |
| Tuberculosis of the lungs | 105 | 57 |
| Pneumonia | 33 | 36 |
| Erysipelas | 15 | 2 |
| Puerperal fever | 1 | 3 |
| German measles | 7 | 0 |
| Septicæmia | 2 | 0 |
| Tetanus | 2 | 1 |
| Mumps | 18 | 0 |
| Cancer | 23 | 21 |

The following deaths were recorded from other transmissible diseases: Tuberculosis, other than tuberculosis of the lungs, 6; diarrhoea and enteritis, under two years of age, 22; dysentery, 1. The total deaths numbered 496, in an estimated population of 1,469,126, corresponding to an annual death rate of 17.56 in 1,000. The total infant mortality was 131; under one year of age, 110; between one and two years of age, 21. There were 45 still births, males 26 and females 19. No unusual meteorological phenomena were recorded by the weather bureau.

BOSTON AND NEW ENGLAND.

The Portland (Me.) Medical Club.—At a meeting held on Thursday, June 7th, Dr. F. P. Webster read a paper entitled *A Consideration of the Carbohydrates Used in the Artificial Feeding of Infants*.

Yale University Medical Department.—Dr. George Blumer, formerly director of the Bender laboratory in Albany, and professor of pathology and bacteriology in the Albany Medical College, but more recently a practitioner in San Francisco, has been appointed professor of medicine in the medical school of Yale University.

Personal.—At the annual meeting of the Maine Medical Association, held at Portland, on Wednesday, Thursday, and Friday, June 13, 14, and 15, 1906, the only charter member present was Dr. Alonzo Garcelon, of Lewiston, who has attained the age of ninety-seven years. Dr. Garcelon is a graduate of the Medical College of Ohio in the class of 1839.

The Franklin County (Mass.) Public Hospital.—At a recent meeting of the corporation of the Franklin County Public Hospital, Greenfield, Mass., the plans for the new hospital presented by the plan committee were accepted and a soliciting committee consisting of Judge F. M. Thompson, Dr. G. P. Twitchell, W. S. Carson, F. P. Forbes, and F. H. Payne was appointed. A building committee was also appointed consisting of Dr. H. G. Stetson, F. A. Pond, and John D. Kiely.

The Maine State Sanatorium Association.—At the annual meeting held recently at Portland, the election of officers resulted as follows: President, General Selden Connor, Augusta; vice-president, Hiram W. Ricker, Poland; treasurer, Honorable Treby Johnson, Augusta; secretary, Dr. A. G. Young, Augusta; trustees for four years, Right Reverend Robert Codman, Portland; Honorable F. C. Whitehouse, Topsham; Dr. F. C. Thayer, Waterville; Dr. Estes Nichols, Hebron; additional trustee, Honorable Fred E. Richards, Portland.

The Mortality of Connecticut.—According to the State Board of Health's *Monthly Bulletin* for May, 1906, the total number of deaths during the month was 1,396. This was 34 less than in April, and 197 more than in May of last year, and 209 more than the average number of deaths during May for the five years preceding. The death rate was 18.0 for the large towns, for the small towns, 13.9, and for the whole State 17.0. The deaths reported from infectious diseases were 285, being 20.4 per cent. of the total mortality.

The Massachusetts Medical Society.—The following officers were elected at the annual meeting held at Boston on

June 12th and 13th: President, Dr. George W. Gay, of Newton; vice-president, Dr. Leonard Wheeler, of Worcester; treasurer (re-elected), Dr. Edward M. Buckingham, of Boston. Dr. Francis W. Goss, of Roxbury, was elected corresponding secretary and re-elected recording secretary. The annual discourse was delivered by Dr. John L. Hildreth, of Cambridge, and among the special addresses were those by President Charles W. Eliot, of Harvard University, and Judge Henry N. Sheldon, of the superior court.

The Medical Corps of the National Guard of the State of Maine.—An order organizing a medical corps of the medical officers of the national guard of the State was issued from the office of the adjutant general on June 7. The corps is to consist of one surgeon general with the rank of colonel upon the staff of the commander-in-chief, two surgeons with the rank of major, two assistant surgeons with the rank of captain, two assistant surgeons with the rank of first lieutenant, one assistant surgeon with the rank of lieutenant (junior grade), and such other medical officers as future changes in the formation of the guard may require. Assigned as follows: One surgeon with rank of major, one assistant surgeon with rank of captain, and one assistant surgeon with rank of first lieutenant to each regiment of infantry; one assistant surgeon with rank of lieutenant (junior grade) to the ship's company naval reserve. All the medical officers hereafter nominated shall be required to pass a strict medical and surgical examination before being commissioned. All commissions in the medical corps shall be subject to the same provisions as govern other commissions in the national guard of the State of Maine. Surgeon and assistant surgeons shall serve with the regiment by whose colonel they were nominated, unless recommended to other duty by the surgeon general and assigned by the commander-in-chief. Under the provisions of this order the following assignment of medical officers is promulgated: To the first regiment of infantry, Major Bial F. Bradbury, Captain Charles L. Cragin; to the second regiment of infantry, Major Edwin M. Fuller, Captain James F. Hill, First Lieutenant Fred. A. Chandler; to the ship's company naval reserve, Lieutenant (junior grade) George H. Turner, Jr.

The Maine Medical Association.—At the fifty-fourth annual meeting held at Portland, on June 13-15, 1906, the election of officers resulted as follows: President, Dr. C. E. Williams, Auburn; vice-presidents, Dr. Charles D. Smith, Portland, and Dr. O. C. S. Davies, Augusta; censors, Dr. H. H. Brock, of Portland; Dr. B. L. Bryant, of Bangor; Dr. J. D. Cochrane, of Saco; Dr. E. M. Wing, of North Anson; Dr. W. L. Haskell, of Lewiston; committee on publication, Dr. Walter E. Tobie, secretary *ex-officio*; Dr. S. P. Warren, of Portland; Dr. L. B. Hills, of Westbrook; Dr. J. W. Beede, of Auburn; Dr. L. T. Snipe, of Bath; business committee, Dr. Daniel Driscoll, and Dr. Gilman Davis, of Portland. The new constitution of the American Medical Association was not adopted, 45 being for and 44 against, a two third vote of all present being required. Following the dinner Dr. Charles S. Minot, of Boston, gave the annual oration, his subject being The Relation of Embryology to Medical Progress. It was voted to hold next year's convention in Lewiston, either the first or second week in June. Following are the appointments: Visitors to Maine Insane Hospital, Dr. G. M. Elliott, Brunswick; Dr. C. M. Leighton, Portland; Dr. C. R. Burr, Portland; visitors Eastern Maine Insane Hospital, Dr. R. D. Bibber, Bath; Dr. A. M. Card, Alna; visitor to Medical School of Maine, Dr. A. L. York, Wilton; delegate to American Medical Association for session of 1907, Dr. Edwin M. Fuller, Bath; delegates to medical societies, New Hampshire, Dr. A. L. Stanwood, Rumford Falls; Dr. F. E. Small, Biddeford. Massachusetts, Dr. T. D. Sullivan, Calais; Dr. Charles D. Smith, Portland; Dr. George Curtis, Lisbon Falls; Dr. Charles L. Cragin, Portland. Vermont, Dr. A. F. Williams, Phippsburg; Dr. C. F. Parker, North Windham. New York, Dr. N. J. Gehring, Portland; Dr. W. E. Webber, Lewiston. Pennsylvania, Dr. Thomas J. Burrage, Dr. F. P. Webster. New Brunswick and Maritime Provinces, Dr. C. E. Johnson, Princeton; Dr. Eben H. Bennett, Lubec. Entertainment Committee, Dr. H. H. Cleveland, Lewiston; Dr. W. L. Haskell, Lewiston.

BALTIMORE AND THE SOUTH.

The Cabell County (W. Va.) Medical Society.—At a meeting held on Thursday, June 14th, the subject for discussion was Typhoid Fever.

Personal.—Dr. Thomas S. Cullen, of Baltimore, has resigned as gynaecological surgeon to the Cambridge, Maryland, Hospital, and Dr. Guy L. Hunner, of Baltimore, has been appointed to fill the vacancy. The directors of the hospital adopted a resolution expressing their appreciation of Dr. Cullen's services in the seven years he has been connected with the institution.

The South Georgia Medical Association held a meeting at Cordele, on Wednesday, June 6th, for the discussion of tuberculosis. Papers were read as follows: History and Prevalence of Tuberculosis, Dr. F. T. Williams, of Vienna; Management and Treatment of the Consumptive, Dr. V. O. Harvard, of Arabi; Government and Control of the Consumptive, Dr. W. E. Edwards, of Cordele.

The Kansas State Board of Medical Registration and Examination.—Of the ninety-two applicants for license to practice medicine in Kansas who took the special examination given by the State board, on June 14th, eighty-two made the required average of 75 per cent. and will be awarded certificates. Most of the applicants were graduates from the medical department of the University of Kansas, and members of the board say it is the best record ever made by a class of applicants. At the last examination more than a third of the applicants failed.

The Tennessee Valley Medical Society.—The following programme was prepared for a meeting held at Huntsville, Alabama, on Tuesday and Wednesday, June 12th and 13th: Medical Ethics, by Dr. C. E. Blanton, of New Market; Difficult Labors, by T. E. Dyer, of Huntsville; Cirrhosis of the Liver, by Dr. Myers and Dr. Watson, of Decatur; Some Recent Observations in Pneumonia, by Dr. E. O. Williamson, of Gurley; Chloroform Anæsthesia, by Dr. E. J. Conyngton, of Decatur; The Physician's Duty to Himself, by Dr. Hugh Boyd, of Scottsboro; subject to be selected, Dr. F. E. Baldrige, of Huntsville; Ether Anæsthesia, by Dr. M. R. Moorman, of Huntsville; Rheumatism, by Dr. J. J. Horton, of Huntsville; subject to be selected, Dr. Edgar Rand, of Huntsville; volunteer papers and report and discussion of cases.

The Johns Hopkins Hospital.—At a meeting of the board of trustees held on Friday, June 8th, the following appointments were made to the hospital staff: Dr. R. H. Folis, assistant in surgery; Dr. P. K. Gilman, fourth assistant resident surgeon; Dr. Louis V. Hamman, physician in charge of the Phipps Dispensary. As assistant physicians in the Phipps Dispensary, Dr. M. L. Price, Dr. A. W. Foster, Dr. A. G. Rytina, Dr. H. H. Hazen. As voluntary assistants in medicine, Dr. H. Klein, Germany; Dr. C. C. Dencker, Germany; Dr. J. Meakins, Montreal; and Dr. John H. King, of Baltimore, were appointed members of the hospital staff. Dr. Klein and Dr. Dencker have but recently come to this country. They are here for a year's study in research work in medicine and voluntarily offered their services to the local hospital. The board was much pleased to assign them.

Personals.—Of the present resident physicians of St. Joseph's Hospital, Baltimore, Dr. J. M. Lynch, senior resident and surgeon for two years, will enter the office of Dr. I. R. Trimble, as his associate, in addition to having surgical service in St. Joseph's dispensary.

Dr. S. R. Clarke will open an office in Baltimore and establish a practice there.

Dr. Elmer H. Adkins will return to North Carolina, his native State, and establish his practice.

Dr. Frederick W. Davis will accept a position on an ocean liner and spend a year in combined work and travel.

Miss Lucy Cameron Marshall, of Virginia, a graduate of St. Joseph's Hospital Training School for Nurses, Class 1906, has been appointed assistant superintendent of the Georgia Infirmary, of Savannah, and will leave in a few days for her new work.

Appointments for the Coming Year at St. Joseph's Hospital, Baltimore.—The appointments on the staff of St. Joseph's Hospital, recently announced, for the year beginning June 1st, comprise the following physicians: Pathologist, Dr. Eugene H. Hayward; radiographer, Dr. Howard E. Ashbury. In the dispensary: medical department, Dr. John S. Fischer; surgical department, Dr. Joseph E. Gately and Dr. J. M. Lynch; eye and ear department, Dr. J. J. Carroll and Dr. Otto S. Duker; nose and throat department, Dr. Frank E. Brown and Dr. J. P. Robinson; pædiatric and skin department, Dr. E. L. Crutchfield; gynaecological and obstetrical department, Dr. L. E. Neale and Dr. E. L.

Crutchfield; proctological department, Dr. Arthur Hibb; resident staff: Senior resident and surgeon, Dr. Hamner C. Irwin (reappointed), University of Maryland, 1905; gynecologist and oculist, Dr. Bernard J. Wess (reappointed), Baltimore Medical College, 1905; physicians, Dr. George H. Pflueger, Baltimore Medical College, 1906; Dr. Charles L. Jennings, University of Maryland, 1906; surgeons, Dr. V. F. Cullen, Johns Hopkins Medical School, 1906, and Dr. Newton W. Hirshner, University of Maryland, 1906.

The Johns Hopkins University Medical School.—At the thirtieth commencement exercises, held at Baltimore, on Tuesday, June 12th, the following promotions and appointments in the medical faculty were announced: Dr. Thomas McCrae, now assistant, to be associate professor of medicine and clinical therapeutics; Dr. Arthur S. Loevenhart, now assistant, to be associate professor of pharmacology and physiological chemistry; Dr. William W. Ford, now assistant, to be associate professor of bacteriology and lecturer on hygiene; Max Broedel, now instructor, to be associate professor of art in its relation to medicine; Dr. F. Harry Baetjer, now assistant, to be associate in surgery in charge of actinography; Dr. J. H. Mason Knox, now assistant, to be instructor in pædiatrics; Dr. Richard A. Urquhart, now assistant, to be instructor in pædiatrics; Dr. Edgar R. Strobel, now assistant, to be instructor in dermatology; Dr. Francis C. Goldsborough, now assistant, to be instructor in obstetrics; Dr. Arthur W. Meyer, now assistant, to be instructor in anatomy; Dr. Robert Retzer, now assistant, to be instructor in anatomy; Dr. George H. Whipple, now assistant, to be instructor in pathology; Dr. J. A. English Eyster, now assistant, to be instructor in physiology; Dr. Arthur D. Hirschfelder, now voluntary assistant, to be instructor in medicine; Dr. John M. Bergland, assistant in obstetrics; Dr. Benson A. Cohoe, assistant in medicine; Dr. Christian Dencker, voluntary assistant in medicine; Dr. Henry M. Fitzhugh, assistant in pædiatrics; Dr. John T. Geraghty, assistant in genitourinary surgery; Dr. Donald R. Hooker, assistant in physiology; Dr. John H. King, voluntary assistant in medicine; Dr. H. Klein, voluntary assistant in medicine; Dr. Charles W. Larned, assistant in medicine; Dr. J. Meakins, voluntary assistant in medicine; Dr. Roger Morris, assistant in medicine; Dr. John F. Ortschild, assistant in surgery in the Hunterian laboratory; Dr. H. Lee Smith, assistant in medicine. The graduating class in medicine numbered eighty-four, of which seven were women. The following list includes the first twenty-five members of the graduating class, arranged in order of merit. From this list the appointments of resident house officers in the Johns Hopkins Hospital will be made by the trustees: Francis Cooke Beall, Henry F. Helmholtz, Frank J. Sladen, Harvey B. Stone, Frank C. Ainley, Charles W. Hennington, John F. Ortschild, Frederic W. Bancroft, Eugene R. Kelley, Henry C. Thacher, Solomon Strouse, Ernest S. Cross, Richard N. Duffy, Enoch M. Mason, George H. White, Jr., Henry Camp Russ, Philip P. Thompson, Frank Hinnan, Damon B. Pfeiffer, Samuel Wolman, Henry Beeuwkes, Agnes G. Murdoch, Lamar Seeley, Harry G. Sloan, George Marsden.

The Mortality of Baltimore.—The report of the health department for the week ending June 9th, showed a total of 170 deaths, as compared with 187 the corresponding week of last year, 159 in 1904, and 150 in 1903. There was only one death from typhoid fever and no new cases have been reported from the infected district in Woodberry for the last several days. The annual death rate in 1,000 of population was: Whole, 15.10; white, 12.72; colored, 27.27. The principal causes of death were: Typhoid fever, 1; measles, 1; scarlet fever, 2; whooping cough, 2; diphtheria, 2; consumption, 23; cancer, 6; apoplexy, 8; organic heart disease, 11; congenital debility, 14; lack of care, 3; suicide, 1; homicides, 2; accidents, etc., 9. The following number of cases of infectious diseases were reported, as compared with the corresponding week of last year:

| 1905. 1906. | 1905. 1906. |
|-----------------------------|-------------|
| Diphtheria 11 | 22 |
| Scarlet fever 16 | 28 |
| Typhoid fever 4 | 24 |
| Measles 112 | 29 |
| Mumps 1 | 3 |
| Whooping cough 14 | 17 |
| Chickpox 2 | 2 |
| Consumption 22 | 15 |

CHICAGO AND THE WEST.

The Medical Department of the University of Minnesota.—Dr. F. F. Westbrook has been elected dean of the medical department, to succeed Dr. Parks Ritchie, who recently resigned the position.

The Elgin (Ill.) Insane Asylum.—Dr. Vaclav Podstata, superintendent of the Cook county institutions at Dun-

ning, has been elected superintendent of the Elgin Insane Asylum by the trustees, to succeed Dr. Frank S. Whitman, resigned. The selection was made after the trustees had made a careful investigation of candidates for the place and on the recommendation of a number of prominent Chicago physicians.

The Austin Flint Medical Association of Northern Iowa will hold its annual meeting at Mason City, on Wednesday, July 11, 1906. A two days' session will be held, which will include a banquet, at which addresses will be made by Dr. M. J. Kenefic, of Algona; Dr. W. J. Egloff, of Mason City; Dr. I. K. Gardner, of New Hampton; Dr. J. R. Guthrie, of Dubuque; Dr. H. H. Clark, of McGregor; Dr. J. C. Wright, of Clear Lake, and others. The local committee consists of Dr. C. L. Marston, Dr. I. I. Nicol, Dr. T. T. Blaise, Dr. Noyes, Dr. Newcomer, Dr. McGlone, and Dr. C. P. Smith.

Statement of Mortality in Chicago for the Week Ending June 9, 1906, compared with the preceding week, and with the corresponding week of 1905. Death rates computed on United States Census Bureau's figures of midyear populations—2,049,185 for 1906, and 1,990,750 for 1905:

| | June 9,
1906. | June 2,
1906. | June 10,
1905. |
|--|------------------|------------------|-------------------|
| Total deaths, all causes | 523 | 465 | 514 |
| Annual death rate in 1,000 | 13.31 | 11.83 | 13.46 |
| Sexes— | | | |
| Males | 303 | 273 | 307 |
| Females | 220 | 187 | 207 |
| Ages— | | | |
| Under 1 year of age | 106 | 80 | 90 |
| Between 1 and 5 years of age | 50 | 51 | 44 |
| Between 5 and 20 years of age | 35 | 45 | 29 |
| Between 20 and 60 years of age | 331 | 205 | 243 |
| Over 60 years of age | 101 | 84 | 108 |
| Important causes of death— | | | |
| Apoplexy | 10 | 9 | 19 |
| Bright's disease | 43 | 41 | 46 |
| Brachitis | 10 | 16 | 7 |
| Consumption | 45 | 60 | 70 |
| Cancer | 32 | 26 | 19 |
| Convulsions | 6 | 10 | 9 |
| Diphtheria | 6 | 6 | 4 |
| Heart diseases | 42 | 29 | 48 |
| Influenza | 1 | .. | .. |
| Insolation | 3 | .. | 1 |
| Intestinal diseases, acute | 27 | 24 | 18 |
| Measles | 5 | 7 | 12 |
| Nervous diseases | 31 | 19 | 12 |
| Pneumonia | 77 | 62 | 73 |
| Scarlet fever | 12 | 20 | 1 |
| Suicide | 11 | 4 | 10 |
| Typhoid fever | 7 | 4 | 8 |
| Violence (other than suicide) | 32 | 33 | 38 |
| Whooping cough | 3 | 6 | 8 |
| All other causes | 120 | 89 | 120 |

GENERAL.

The American Laryngological, Rhinological, and Otological Society.—The election of officers, at the annual meeting held at Kansas City, Missouri, on June 11, 12, and 13, 1906, resulted as follows: President, Dr. Wendell C. Phillips, New York; vice-presidents, Dr. C. G. Coakley, New York; Dr. J. M. Ingersoll, Cleveland, Ohio; Dr. W. C. Bane, Denver, Col.; Dr. J. M. Ray, Louisville, Ky.; secretary, Dr. T. J. Harris, New York; treasurer, Dr. F. W. Day, Pittsburgh, Pa.; council, Dr. J. E. Logan, Kansas City, Mo.; Dr. F. C. Cobb, Boston, Mass.; Dr. N. H. Pierce, Chicago; Dr. L. A. Coffin, New York; Dr. T. H. Halsted, Syracuse; Dr. J. F. McKernon, New York; Dr. H. W. Loeb, St. Louis; Dr. C. W. Richardson, Washington; Dr. D. B. Kyle, Philadelphia.

The Army Medical School.—According to the *Army and Navy Journal* for June 16, 1906, the War Department has received the report of the board appointed to examine candidates for admission to the Medical Corps of the Army, and has approved the recommendations of the board that seven applicants be admitted to attend the next session of the Army Medical School, and upon completion of a course of instruction there to be allowed to take a final examination for commissions as assistant surgeons in the army. Fifty-seven applicants were invited to appear before the board for examination, but of this number only forty-one actually took the examination, six having declined to appear and ten having failed to appear after having expressed their desire to take the examination. Eleven of the forty-one were found physically disqualified, one withdrew, twenty-two were rejected, and seven qualified. The successful seven are these: Bernard S. Gostin, Arthur C. Christie, Guy V. Rukke, William W. Miller, Howard H. Johnson, Ray W. Bryan, William H. Myers.

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

June 14, 1906.

1. The Medical Profession and the Issues Which Confront It. President's Address at the Fifty-seventh Annual Session of the American Medical Association at Boston, June 5-8, 1906, By WILLIAM J. MAYO.
2. The Hyperæmia Treatment of Congested and Inflamed Tissues, By E. H. BRADFORD.
3. Sanitary and Moral Prophylaxis, By PRINCE A. MORROW.
4. Fracture of the Lower End of the Femur, By GEORGE HILLS FRANCIS.

2. **The Hyperæmia Treatment of Congested and Inflamed Tissues.**—Bradford comes to the conclusion that the hyperæmia treatment of congested tissues is not only one which deserves careful investigation, but may be regarded as undoubtedly deserving an assured position in the treatment of certain affections which are not readily amenable to the methods previously used. He comes to this conclusion through the results obtained from the Bier method of treatment. The most simple method of producing thorough hyperæmia is the application of dry heat. The usual methods of the application of moist heat do not permit evaporation nor excite perspiration, and although they furnish means affording relief, as has been shown by poultices, hot cloths, the application of Denver mud, etc., yet where the perspiration is prompted rather than checked, a greater amount of heat can be employed with benefit; this constitutes the Bier method of active hyperæmia, which consists in surrounding the affected parts by a chamber of hot, dry air. This method has been much elaborated, but as used in the Bonn clinic it is to be seen in its simplest as well as most efficient form. It is evident that where the heat is prevented from radiating rapidly, the tissues can be treated by the application of a much lower heat. It is therefore essential that the chamber surrounding the joint should be made of a material which does not permit rapid radiation. It is also advisable that the arrangement employed should be portable and cheap, and that the heat should be under careful regulation. It is for this reason that a light wooden box is preferable to the heavy and expensive appliances which have been furnished by many instrument makers. Electricity has been utilized as a means of furnishing a heat without the danger of inflammability, but electrical heat is not as easily regulated as that given from a Bunsen burner. Furthermore, Bier claims that under certain conditions the true antiphlogistic is not induced by anæmia, but on the contrary, by increasing rather than diminishing the amount of blood in the affected parts. Where degenerative changes are taking place, these are assisted or checked by an increased amount of blood in the tissues. It is manifest that this hyperæmia treatment is not applicable to all stages of inflammation, but this may be equally true in regard to the treatment by anæmia.

4. **Fracture of the Lower End of the Femur.**—Francis reports a case of a fracture, the lower end of the femur being broken off from the shaft and displaced backwards, the fracture apparently extending into the knee joint. The patient had used an artificial limb, the leg having been amputated at a point eight inches below the knee. While not using his artificial limb one night he had a bad fall, which resulted in the fracture. The diagnosis of such a case is generally rather easy, there being present some shortening, a mobility at the seat of fracture, a distinct crepitus, usually a displacement backwards of the lower fragment (caused by the contraction of the very powerful gastrocnemii) considerable œdema and more or less nervous shock. The history of a fall, usually landing violently on the feet,

is the common occasion of this accident. If the knee joint is involved, and sometimes when it is not, particularly if the limb is not at once treated, a severe cynovitis is liable to ensue which may cause an ankylosis or a suppuration resulting fatally usually. The treatment should be the following: The leg should be put up with extension on a curved ham splint or double inclined plane. This should be done under an anæsthetic which relieves the muscular tension so that the dislocation can be more readily reduced. Care should be taken that there should be no pressure on the popliteal vessels.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

June 16, 1906.

1. The Assault on Tropical Disease, By LEWELLYS F. BARKER.
2. The New Hygiene. Chairman's Address Before the Section on Hygiene and Sanitary Science, at the Fifty-seventh Annual Session of the American Medical Association, By DENSLOW LEWIS.
3. Tuberculosis a Social Disease, By S. A. KNOPF.
4. Bennett's Fracture, By RAYMOND RUSS.
5. The Formation of Connective Tissue in the Anterior Part of the Vitreous Body in Young Girls, By CHARLES J. KIPP.
6. Spinal Amyotrophy with Papillary Inequality and Juvenile Dystrophy, By L. HARRISON METTLER.
7. Pretuberculous Conditions and the Treatment of Associated Anæmia by Hypodermic Injections of Iron and Arsenic, By B. R. SHURLY.
8. Hydatid Cyst of the Liver in Children, By WILLIAM FITCH CHENEY.
9. Bacteriuria. Report of a Unique Case, By G. PAUL LA ROQUE.
10. The Strenuous Life and Its Effects in Disease, By S. T. RUCKER.

1. **The Assault on Tropical Disease.**—Barker states that tropical pathology is rapidly becoming recognized as a special field in medicine, and gives a short history of the growth of interest in tropical medicine. The people in hot countries suffer from the cosmopolitan diseases, typhoid fever, relapsing fever, cholera, dysentery, smallpox, tetanus, tuberculosis, syphilis, diabetes, arteriosclerosis, nephritis, and neurasthenia, they ought to be understood by the physicians of Manila, Singapore, Bombay, Khartoum, and Havana, as well as by the doctors in Baltimore, London, and Berlin. But there is a large group of diseases which occur almost exclusively in tropical and subtropical climates, and only rarely in the more temperate regions of the earth, bubonic plague, dengue, yellow fever, Malta fever, malaria, beriberi, tick fever, uncinariasis, sleeping sickness, etc. To study these diseases institutions have been founded, in Germany, England, and France, while the United States has established a laboratory in Manila.

3. **Tuberculosis a Social Disease.**—Knopf speaks of tuberculosis as a social disease, the question of its prevention and of its care and cure, beginning at the bottom of the social ladder with the children. Tuberculosis in infancy is indirectly due, on the one hand, to either a hereditary or an acquired predisposition, and directly, on the other hand, to a postnatal infection. While direct hereditary transmission of the tuberculous germ is rare, the child may inherit a predisposition; the same condition may be produced when a child is fed from a bottle. The early postnatal infection takes place if a tuberculous mother or wetnurse is allowed to give the breast to the child, or by careless hygiene. Another danger is boarding of babies, when no proper attention is paid to the boarding family and the attendants provided. To prevent marriage of tuberculous would be of great importance. Proper feeding is essential, and should go hand in hand with home and school hygiene, together with education of the tuberculous and education of those living with them, especially in schools is this very neces-

sary. Every public school should have a well equipped gymnasium and a swimming tank with constantly running fresh and salt water, where each pupil should be given the opportunity to bathe several times during the week. School physicians should see that tuberculous children and teachers are sent to sanatoria, which institutions should be multiplied. The baneful influence of child labor should be absolutely stopped by laws. Thus the author arrives at the age of adolescence where danger arises from working in shops, factories, offices, or stores. But one of the strong predisposing factors to an acquired tuberculosis in adult life is always the fearful scourge, alcoholism. To combat this safely there is only one way, by making the manufacture and sale of alcohol a government affair. Next to alcohol insanitary tenements and lack of air and light are the strongest predisposing factors to tuberculosis. The community has also a great duty to perform in taking care of indigent sufferers of this disease, by sanatoria, institutions, etc.

4. **Bennett's Fracture.**—Russ cites nine cases of fracture of the base of the first metacarpal bone. The diagnosis is sometimes very difficult, in obscure cases the Röntgen ray must be depended on to make a diagnosis. The treatment consists in a coaptation traction splint, the thumb being put in strong abduction, of which splint the author gives a description. Three wooden butchers' skewers, slate pencils, or small lead pencils are padded and placed about the metacarpal, one posteriorly in the interosseous space, one along the outer border, and the third over the thenar eminence, extending from above the metacarpal bone to the first phalangeal joint. They are fastened tightly in place by two strips of adhesive plaster. Traction is then exerted on the thumb and maintained by strips of adhesive plaster passing about the first phalanx and the projecting ends of the three skewers. The dressing is reinforced by a rectangular cardboard splint.

7. **Pretuberculous Conditions and the Treatment of Associated Anæmia by Hypodermic Injections of Iron and Arsenic.**—Shurley notes that there are no one or two signs that can be relied on as a conclusive proof of an approaching phthisis, but taken together they give us enough danger signals to warn us. The pretuberculous stage of phthisis is, in the vast majority of cases, nothing more than a latent unrecognized tuberculosis, and the development of the bacillus tuberculosis in many is a problem in cell nutrition, the biochemical phenomena of which we do not understand. If associated with steadily increasing loss of tissue there is a general malaise, sometimes with acceleration of the pulse, all these important signs. Constant attendance of anæmic blood changes in cases which show imperfect chest development and continuous loss of weight for which no cause is apparent should impress us, as chlorosis ordinarily is not accompanied by loss of weight. Examinations of the blood in the pretuberculous conditions all show that the hæmoglobin is diminished out of all proportion to the loss in red cells, and early phthisis is usually marked by a slight leucocytosis, slight diminution of the red blood corpuscles, and a moderate reduction in hæmoglobin. Active measures should be taken in this pretuberculous condition. Hypodermic medication with iron, arsenic, hypophosphites, and strychnine offers a prompt and powerful reconstructive adjunct of the necessary pure air, good food, and sensible hygiene.

8. **Hydatid Cyst of the Liver of Children.**—Cheney reports two cases of hydatid cyst of the liver of children, a disease which seems to be very rare. In diagnosing the disease inquiry should always be directed to the child's intimacy with dogs, as the *Tania echinoccus* is a parasite of the dog family. The general health—digestion, nutrition, strength—is inter-

fered with slightly or not at all, but there is pain, fullness, weight, dragging, and interference with movements, such as stooping, together with gradual, visible, enlargement. The aspirating needle is a great help, and the microscope shows the peculiar bodies called hooklets, found in no other fluid but this; but their absence does not negative the diagnosis. The tumor should be extirpated by an operation.

MEDICAL RECORD.

June 16, 1906.

1. Neurons and Neurofibrils. A Brief Review of the Present Teachings, By JOSEPH COLLINS and G. EDWIN ZABRISKIE.
2. The Lenhartz Treatment of Gastric Ulcer at the Eppendorfer Krankenhaus, By J. VICTOR HABERMAN.
3. The Treatment of Stammering, By ELMER L. KENYON.
4. The Stomach Douche and Its Application, By M. GROSS.

5. Diphtheria Antitoxine in Chorea, By B. F. HAMILTON.
6. Reichenhall, Bavaria; a Climatic Resort, By L. GRUENWALD.

1. **Neurons and Neurofibrils.**—Collins and Zabriskie review the history of the neuron and neurofibrils theory. They say: Ten years ago the "Neuron theory," *i. e.*, the theory that the nervous system was made up of a collection of anatomical and genetic nerve entities or units constituted of cell, fibre, and terminal ramifications, having no connection save by contiguity, was generally accepted. Gradually in latter years an increasing interest has developed in the histology and microchemistry of the nervous system; and with this has come from many workers in these fields a decided opposition to the neuron theory so that to-day it is in the strict sense partially or wholly rejected by many of the most trustworthy workers in the fields of neurohistology and biology. Apathy, Bethe, Nissl, and others have sought to establish that the fibrils of nerve cells form a continuous system, without beginning, without end, like the vascular system, binding one cell body with another and thus uniting the neurons between them. Without in any sense holding a brief for those who oppose the neuron theory, the authors review some of the more important evidence that now exists to show that the nervous system is not made up of a collection of units, of invariable constitution with free endings, having no connection with one another save by contiguity. The new teachings ask us to imagine a fibre without a cell—a thing which we cannot do unless we give up the cellular theory. Although there seems to be a necessity to modify the neuron theory, nothing has yet been done to cause it to be abandoned. The one thing that is needed by the opponents of the neuron theory is to show the transition of a sensory, centripetal impulse, to a motor centrifugal tract without the intermediation of a ganglion cell. If they could do that their claims would be established. Whether they first go in or come out of the cell, whether the elementary trellis formation is originally extracellular or intracellular, whether the fibrils are at all interrupted at Ranvier's nodes, or whether there is a free peripheral termination, are all matters of trivial importance compared with this, for then the neuron theory would lose its applicability and usefulness to the problem of physiology and histology.

2. **The Lenhartz Treatment of Gastric Ulcer at the Eppendorfer Krankenhaus.**—Haberman describes the Lenhartz treatment as follows: Absolute rest in bed for at least four weeks. All mental excitement to be avoided. An ice bag is placed upon the stomach, and kept there almost continuously for two weeks. On the first day, even where a hæmatemesis has occurred, the patient receives between 200 and 300 c.c. of iced milk, given in spoonfuls, and two to four beaten eggs. At the same time bismuth subnitrate is given twice or thrice a day, 2.0 grammes at a dose, and is continued

for ten days. The eggs are beaten up entire (with a little sugar), and the cup containing them is placed in a dish filled with ice, so that they remain cold. Sometimes a little wine is added. The allowance of milk is increased 100 c.c. daily, and at the same time one additional egg is given, so that at the end of the first week the patient is receiving 800 c.c. of milk and six to eight eggs. Both these foods are now continued in the same amount per day for another week. Beside milk and eggs some raw chopped meat is given from the fourth to the eighth day on, usually the sixth; 35 grammes per day, in small divided doses (easily stirred up with the eggs or given alone), the day after 70 grammes, and later possibly more if well digested. The patient is now able to take some rice well cooked and a little zwieback (softened). In the third week quite a mixed diet is tolerated, the meat being now given well cooked or lightly broiled. All heavy foods are, of course, interdicted as well as vegetables with husks, etc., and those tending to produce flatulence. At the same time the patient is given strict orders to masticate his food thoroughly. The bowels are not to be moved, both in order to avoid any peristaltic irritation and to permit the reabsorption of blood that may have passed into the intestine. In fact, one need pay absolutely no attention to constipation in the first week, nor in many cases even to the end of the second. After the second week the bowels are moved with small glycerin injections, or warm water, and after the third week this is done daily if a movement does not occur spontaneously. After this one tries to control the bowels by means of the food, and by having the patient go to stool regularly. For the anæmia iron is given in the form of a soft preparation of Bland's pills. In severe cases arsenic is also given in form of pills. The patient is usually allowed up on the twenty-eighth day, and is dismissed in the sixth to tenth week.

3. The Treatment of Stammering.—Kenyon says that in meeting the problem of treating stammering three main ideas are to be advanced: First, education, that the patient may consciously learn how to handle his speech apparatus; second, discipline, that he may overcome a firmly rooted and stubborn habit; and, third, correction of general organic disability, and of peripheral abnormalities, in order that the delicate mechanism of speech may not be physically interfered with. Education and discipline are then described in brief.

4. The Stomach Douche and Its Application.—Gross states that the introduction of the stomach tube is indicated: 1. For diagnostic purposes, where in any case it is indispensable in order to permit of intelligent therapeutical procedure. 2. For therapeutical purposes: Acute toxic inflammations, intoxications, and ileus; old mucous or nonmucous gastric inflammations; a small number of sensitive stomach neuroses, hyperæsthesias, chronic ulcerative affections, erosions; anomalies of secretion, or chylorrhœa; disturbances of motility in both atonic and mechanical gastroæstasia. 3. In cases of serious disturbances of motility. Here the object is not only to remove food remnants, but also to exercise a purely mechanical effect upon the dilated abdominal wall. The author is of the opinion that the stomach pump which is at present in general use, cannot produce satisfactory results. He therefore uses a douche of which he gives a description: The tube differs from an ordinary stomach tube only in that it is provided with an end opening (outlet aperture) instead of the ordinary lateral apertures, and a number of small, pinhead size lateral holes (inlet openings), which perforate the walls of the tube in different directions. As the fluid is injected under exaggerated pressure, the large aperture at the end tightly closes itself by a loose hard rubber valve being pressed against

it, thereby absolutely deflecting the inflowing stream against the lateral apertures. Thus the entire inner surface of the stomach is irrigated by a fluid injected under exaggerated pressure. In order to increase the irritating effect upon the muscular fibres, the author injects alternately warm and cold fluids, as the susceptibility of the nerves and muscles to the effect of cold is increased by a preceding injection of a warm substance.

5. Diphtheria Antitoxine in Chorea.—Hamilton reports a case of chorea treated with diphtheria antitoxine, and asks the profession to try it and report the results.

THE BRITISH MEDICAL JOURNAL

June 2, 1906

1. A Contribution to the Pathology of the Thyreoid Gland, By Professor KOCHER.
2. The Dystrophy of Tabes and the Problem of Trophic Nerves, By Sir W. R. GOWERS.
3. Three Cases of Ruptured Uterus Treated by Abdominal Section and Suture, By W. H. CRIPPS.
4. Three Cases of Tubal Pregnancy, By C. H. WHITEFORD.
5. Notes of a Case of Repeated Extra-uterine Gestation on the Same Side, By A. GOODALL.
6. A Case of Peripneumonic Septicæmia Due to the Diplococcus Pneumoniae, By G. B. SMITH and N. I. SPRIGGS.
7. A Note on the Etiology of Granuloma Piloni, By K. S. WISE.
8. A Note on Syphilis and Cancer, etc., and on Some Protozoa, By J. J. CLARKE.
9. Severe Punctured Wound of Lower Jaw, By E. G. WALES.
10. Autointoxication: Its Relation to Certain Cardiovascular Disorders, *Continued from last week*, By H. B. SHAW.

2. Tabetic Dystrophy.—Gowers states that the theory that the nutrition of the tissues is governed by special trophic nerves and centres distinct from those which influence their general functions, has been abandoned. Research has afforded no direct evidence of such nerves or centres. A study of the local dystrophies of locomotor ataxia indicates that the state of nutrition of the nerves influences that of the structure related to them. In the case of muscle the influence is exerted by the motor nerves, in other tissues by the sensory nerves. The only certain element in tabes with which we can associate its dystrophy is the altered state of nutrition of the sensory nerves. The only mechanism for the perverted nutrition which harmonizes with other known facts is that this determines an alteration in the processes of nutrition, disturbing that which is primarily due to the vitality of the tissues themselves. It induces a derangement which, once set up, continues and increases. It is very rare to meet with a case of pronounced arthropathy in which marked changes are not evident in the cutaneous nerves. The conditions which would not prevent the recovery of a joint with normal nerves may be persistently harmful to one that is inflamed, however slightly, in a subject of tabes. The absence of pain permits the perpetuation of harm and is a grave misfortune. Pain often emphasizes the necessity for rest.

3. Rupture of the Uterus.—Cripps reports three cases of rupture of the uterus treated by abdominal section and suture, one dying and two recovering. Rupture of the uterus is comparatively rare. In none of the cases would the patient have stood any chance of recovery without operation.

4. Tubal Pregnancy.—Whiteford reports three cases of tubal pregnancy, markedly contrasting with each other, and illustrating three of the recognized conditions which may be produced by rupture of or hæmorrhage from a pregnant tube. The first case was an example of the common variety, in which, after rupture of the tube, the blood, being slowly and intermittently poured out, is limited to the lower abdomen by adher-

ent omentum and intestines, from which are derived the bacteria which infect the blood clot. Portions of blood clot incorporated with the peritonæum covering the pelvis and viscera should not be disturbed. The majority of cases recover after removal of the affected tube and loose coagula. The second case was one of the fulminating type of hæmorrhage following rupture. Some strain or extra exertion (following the taking of a purgative) often precedes the rupture. The third case illustrated the most usual condition found after rupture of the tube, not involving the death of the fetus, which continued to develop between the layers of the broad ligament. Operation was performed for continuous pain and steadily increasing weakness. Death from shock followed the operation.

6. Puerperal Septicæmia Due to the Pneumococcus.—Smith and Spriggs report a fatal case of puerperal septicæmia occurring in a woman aged twenty-four years. Bacteriological examination of the blood from a vein, made two days before death, showed the presence of the diplococcus pneumoniae; the same organism was found in the pericardial fluid immediately after death. No bacteriological examination was made of the interior of the uterus, but the whole course of the illness was typical of puerperal septicæmia, and autopsy showed no pulmonary lesion other than a slight oedema. The illness ran a rapid and severe course, the patient dying on the eighth day after delivery. Treatment by antistreptococcic serum was without any appreciable result.

7. Granuloma Pudendi.—Wise has demonstrated the presence of spirochætes in smears from three successive cases of granuloma pudendi occurring in natives of British Guiana. Two forms were found—the spirochæta refringens and a form closely resembling the spirochæta pallida. Should it be identical, the view would be supported that this granuloma is a manifestation of syphilis.

THE LANCET.

June 2, 1906.

1. The Pathological Investigation of the Causation of Insanity, By F. W. MOTT.
2. The Preservation of Health Amongst the Personnel of the Japanese Navy and Army (*Lecture III*), By Baron TAKAKI.
3. Some Contributions to the Pathology of the Thyroid Gland, By H. KOCHER.
4. The Hygiene of the Tissues: The Hygiene of the Alimentary Canal (*Harben Lectures, I and II*), By E. METCHNIKOFF.
5. Primary Malignant Disease of the Vermiform Appendix, By H. D. ROLLESTON and L. JONES.
6. On the X Ray Diagnosis of Kidney Stones, By C. T. HOLLAND.
7. Notes of a Case of Persistent Cloaca, By O. M. ELGOOD.
8. A Rare Injury to the Wrist Joint, By A. S. MORLEY.
9. The Use of Rubber Gloves in Medical Wards, By T. W. CLARKE.
10. A Case of Angio-Neurotic Œdema, By C. A. P. TRUMAN.

1. Pathology of Insanity.—Mott has studied the pathology of amentia and dementia, and states that we have a rough gage of the deficiency of mind in the deficiency of gray matter in its superficial extent and in the simple condition of its elements, and of the decay of mind in the degree of destruction of the cortical gray matter and the decay of its cell and fibre elements. The microscope also reveals replacement of the cell and fibre structures by neuroglia, new vessels, and cell elements in the perivascular spaces—namely, lymphocytes and plasma cells—which form the only characteristic microscopic evidence of a specific form of insanity—general paresis. In the true insanities where there is no dementia—*e. g.*, delusional insanity, hallucinatory insanity, and dementia præcox—the brain in its convoluted pattern and in the depth of the cortex gen-

erally shows nothing to identify it as that of an insane person. Nor is there microscopic evidence of any specific and characteristic change. It is not until we have some trustworthy knowledge of the physiological processes of mind, the biochemical or biophysical changes incidental to mental activity, that we can hope to solve the question. Three hundred chemical substances have been prepared from the brain, yet it is probable that a few only exist, with a large and complex molecule, of variable stability, and with individual differences of synthetic combination.

3. Pathology of the Thyreoid.—Kocher, under the head of Basedow's disease, includes all the affections where the symptoms, especially those of goitre and heart trouble, depend directly upon the alteration of thyreoid tissue and thyreoid function. He classifies the cases under the following three varieties: 1. Vascular goitre (stroma vasculosa), consisting of a characteristic, rather rapid swelling of the thyreoid body, with great dilatation of the vessels and systolic bruit and thrill. Tachycardia is always present, tremor is seen as a rule, but exophthalmos is often wanting. Small doses of iodine or phosphates often act most favorably, and the outlook for a radical cure by operation is excellent. 2. Struma Basedowiana colloides where an ordinary goitre exists before the development of the other changes. The symptoms are less severe, even when all of them are present. Tachycardia is always present. The mitigation of the symptoms is probably to be explained by the degenerative changes in the gland. The symptoms of true Graves's disease have been greatly ameliorated by the development of an ordinary colloid goitre. 3. Typical Basedow's disease, developing rapidly, even suddenly, after mental shock. It is in these cases that the exophthalmos is a striking symptom. Of one thousand excisions of ordinary goitre only three proved fatal; of 175 operations for Basedow's disease 9 ended in death. But not a single death took place in those cases where the operation was performed early.

5. Cancer of the Appendix.—Rolleston and Jones have collected forty-two instances of primary malignant disease of the vermiform appendix, of which the diagnosis was carcinoma in thirty-seven cases, endo-thelioma in three, and sarcoma in two. In thirty-one the condition was found during an operation. The condition is probably not as rare as has been supposed. Two of the patients were twelve years of age; at the other extreme was a man of eighty-one years. The average age was 30.8 years. The average age incidence of primary cancer of the vermiform appendix is seventeen years lower than in other parts of the intestine. Acute inflammation was found in thirteen cases. A concretion was mentioned in only three instances, a contrast to primary cancer of the gallbladder. In only five cases were secondary growths present. In forty-eight per cent. the growth was localized in the distal third; as a rule it was of the size of a pea to that of a marble, nearly always white in appearance and firm in texture. A correct diagnosis has never been made before operation; the symptoms in nearly every instance were those of appendicitis. The growth may be either the cause or the effect of the changes producing the symptoms, and may give rise to the symptoms of appendicitis; it is probably the cause in those cases with an apparently acute onset, or in which, the symptoms having been chronic, the growth is the main feature of the appendix. It is probably the outcome of chronic irritation in those cases of obliterating appendicitis in which the growth is recognized by the microscope only.

6. X Rays and Renal Calculi.—Holland's conclusions regarding the x ray diagnosis of renal calculi, are as follows: 1. When a stone or stones are present in such size as to produce symptoms suggesting the desirability of operation, if a careful and thorough exam-

ination is made, such stone or stones can nearly always be shown by x rays. And this would also apply to the presence of stone even if the symptoms alone were not sufficient to demand operation. 2. In most cases where shadows are shown the size, shape, and position can be relied upon in diagnosing them as from kidney or ureteral stones. 3. The negative diagnosis can be relied upon only when the whole region on both sides is carefully examined, and when the plates are of the necessary quality in showing sufficient differentiation of the soft structures in the kidney and ureteral regions. 4. There can be no justification for operation or prolonged medical treatment without an efficient x ray examination being made.

LYON MEDICAL.

May 20, 1906.

1. Primary Cancer of the Lachrymal Sac, By Professor ROLLET.
2. A Case of Cerebral Tumor with Psychological Symptoms. General Asthenia Without Paralysis. No Oedema of the Papilla. By E. MOUISSET and M. BEUTTER.
3. Bullous Affections During Infancy. By JOURDANET.

1. **Primary Cancer of the Lachrymal Sac.**—Rollet reports two cases in which he found a primary cancer of the lachrymal sac. One patient was a man, sixty-five years of age, the other a woman, sixty-one years old. The diagnosis was difficult at first. The sac formed a little soft tumor and mucous pus escaped from the puncta. This dacryocystitis was later accompanied by a cancerous degeneration. In both cases the lachrymal sacs were extirpated.

2. **Cerebral Tumor, with Only Psychological Symptoms.**—Mouisset and Beutter report the case of a woman, forty years old, who came under observation on account of gastrointestinal troubles, ascribed to ptosis and peritoneal adhesions, which improved after a few days of treatment. The patient then began to complain of a headache which, slight at first, grew worse steadily, became paroxysmal, and was finally accompanied by vomiting. The temperature was elevated. For several succeeding days she lay in a state of torpor or somnolence, vomiting from time to time, but showing no other signs of meningitis. Then the temperature fell to normal and the somnolence passed away, together with the headache and vomiting. During the next three months she had seven such attacks. Examination of the fundus of the eye gave negative results every time, and the disappearance of the symptoms always coincided with an abatement of the temperature. Finally the patient died during an attack, and on autopsy a gliomatous tumor was found in the inferior part of the sphenoidal lobe.

3. **Bullous Affections During Infancy.**—Jourdanet says that, although the word bullæ evokes in the minds of many physicians the idea of pemphigus alone, this disease is only one of a number which present this form of eruption. In children they may be produced by the ingestion of certain medicaments, such as antipyrine, bromine, or iodine, or of certain foods, such as sea fish, or molluscs. The eruption in impetigo, urticaria, and varicella may be bullous. Leprosy, syringomyelia, and erythema polymorphum may be attended by bullæ, and finally they form the characteristic feature of the various forms of pemphigus.

LA PRESSE MEDICALE.

April 28, 1906.

1. Senility. The Senile Kidney, By A. LETIENNE.
2. Banti's Disease. Ætiology and Treatment, By SULEIMAN NOUMAN BEY.

1. **The Senile Kidney.**—Letienne states that the characteristic of the senile kidney is an atrophy and granular state of that organ, a condition which does not necessarily imply the presence of albumin in the urine. Albuminuria may, on the other hand, be present, either intermittently or constantly, and it is sus-

ceptible to great variations, analogous to those met with in cardiac albuminuria.

2. **Ætiology and Treatment of Banti's Disease.**—Nouman reports three cases of the disease which Banti, of Florence, described in 1894 as characterized by a hypertrophy of the spleen accompanied by anæmia and followed after a time by cirrhosis of the liver and ascites. In these three cases the ascites and oedema disappeared and the spleen became smaller under treatment with quinine. Inasmuch as no special microorganism has been found in the spleen to confirm the theory that this disease was dependent on a parasitic inflammation of that organ, and as all these cases, which were apparently typical of Banti's disease, improved so markedly under antimalarial treatment Nouman believes it to be simply a form of chronic malaria.

May 17, 1906.

1. Lombopelvic Femoral Amyotrophy, By RAYMOND and GEORGES GUILLAIN.
2. Influence of a Diet Deficient in Chlorides on the Variations of Weight in the Course of Scarlet Fever, By H. PATER.
3. The Serum Diagnosis of Syphilis, By R. ROMME.

1. **Lombopelvic Femoral Amyotrophy.**—Raymond and Guillaïn report a case of this disease in a man, forty-five years of age, in whom the muscles of the pelvis, posterior part of the thigh and trunk had become greatly atrophied so that the spinous processes of the vertebræ formed a crest along his back, the scapulæ presented wing like appearances, and the thorax was shaped to the form of a wasp. There was kyphosis without scoliosis. Many of the reflexes were lost, the pupils of the eyes were of unequal size, but reacted to light and accommodation. There was no cardiac, pulmonary, digestive, or psychological trouble. Urology was normal. The atrophied muscles showed a degenerative reaction of the electric current.

2. **Influence of a Diet Deficient in Chlorides.**—Pater strongly urges the adoption of a diet in which the chlorides are lacking for patients suffering from scarlet fever, because it is well borne by children, increases their weight, and abridges the period of convalescence. The regimen is safe, can be instituted as soon in the course of the sickness as the fever falls, and favors nephritis no more than a milk diet.

MUENCHENER MEDIZINISCHE WOCHENSCHRIFT.

May 22, 1906.

1. The Demonstration of Antituberculin in Tuberculous Tissue, By EDMUND WEIL and HEIJIRO NAKAJAMA.
2. Criminal Abortion, By D. SCHICKELE.
3. Investigation in Regard to Metabolism in Leucæmia During X Ray Treatment, By JWAN ROSENSTERN.
4. The Diagnosis of Congenital Atresia of the Small Intestine, with Special Reference to the Study of the Meconium, By KARL WALZ.
5. The Response of Acute Inflammation of the Middle Ear to Therapeutics According to Its Ætiology, By SCHEIBE.
6. Experiments with Neuronal on the Mentally Unsound, By GERLACH.
7. The Demonstration of Acetoacetic Acid in the Urine, By LUDWIG LINDEMANN.
8. Technics of Bier's Stasis, By FRANZ KUHN.
9. Karl Fürstner, By LEOPOLD LAQUER.
10. The Trip to the Congress of Lisbon, By OSKAR VULPIUS.
11. Medical Psychology with Reference to the Treatment and Education of Congenital Feeble Mindedness, By ALBERT UFFENHEIM.
12. Christmas Time in Florida (Continued), By CARL BECK.

2. **Criminal Abortion.**—Schickele reports several cases which have come under his observation, and holds the opinion that when there has been criminal interference it may in many cases be detected: 1. By injuries to the external genitals, vagina, or cervix by

pointed or cutting instruments, rarely by blunt ones; 2, by the course of the miscarriage, particularly by its onset without antecedent hæmorrhage or pain; 3, by injuries inflicted, on the fœtus; and, 4, by septic infection of the mother.

4. **Congenital Atresia.**—Walz reports a case of congenital atresia of the duodenum which was apparently of embryological origin. Another malformation which supported this view was the presence of a horseshoe kidney. This case proved that a passage of meconium may take place in spite of the presence of a total atresia of the duodenum, and that the admixture of the constituents of the amniotic fluid is not necessary for the formation of the yellow meconium. The author urges that in any case of persistent vomiting on the part of a new born the histological examination of the meconium is a measure of the first importance to determine whether or not an occlusion of the intestine exists, because when intestinal atresia exists operative treatment can be successful only when the diagnosis has been made at a very early period. If meconium is not passed spontaneously an attempt should be made to it from the rectum by means of an enema. A complete absence of lanugo in the meconium is said to be a sure sign of a total occlusion of the intestine which has existed since before the fifth month of foetal life. This diagnosis will be confirmed by the simultaneous absence of pavement epithelium and particles of fat.

6. **Experiments with Neuronal on the Mentally Unsound.**—Gerlach reports the results he obtained from the use of neuronal as a hypnotic in fifty-one cases of various forms of mental disease. He applauds the drug as an efficient hypnotic in these cases, but the tone of the paper is hardly convincing. In the treatment of epilepsy it does not take the place of bromide of potassium.

ROUSSKY VRATCH.

April 29, 1906.

1. The Organization of Obsterical Aid in the Rural Districts of Russia, By N. I. RATCHINSKI.
2. The Treatment of Arteriovenous Aneurysm of Traumatic Origin, By V. V. ALEXANDROFF.
3. Notes on Gastric Digestion in Biliary Affections (*To be continued*), By N. N. KIRIKOFF.
4. Observations on Orthostatic Albuminuria, By M. L. ABELMAN.
5. The Technics of Venous Hyperæmia, By V. N. TOMASCHEVSKI.
6. Acute Dilatation of the Heart, By M. I. MARMORSTEIN.

2. **Treatment of Arteriovenous Aneurysm.**—The best surgical treatment of these aneurysms, according to Alexandroff, is by means of Sims's operation or by the resection of the aneurysmal sac. The blood pressure should be measured before and after the operation in order to control the efficacy of the treatment.

5. **Venous Hyperæmia.**—Tomashevski describes an apparatus which he devised for the application of venous hyperæmia to joints, etc. It is an improved form of elastic bandage which can be applied to the limb without making more than one turn. The bandage is provided with a windlass arrangement by means of which the constriction about the limb can be tightened at will, the state of tension being regulated by two cogwheels working with a simple handle. The appliance appears simple and practical from the illustration.

FORTSCHRITTE DER MEDIZIN.

April 1 1906.

1. The Ætiology of Cancer, By O. SCHMIDT.
2. Regeneration of the Sheath of the Peripheral Nerves, By RAIMANN.
3. Posthemiplegic Motor Disturbance and Its Treatment, By R. FRIEDLÄNDER.
4. Influence of the Duration of an Operation Upon the Period of Convalescence, By L. KESSLER.

5. The Use and Abuse of Atropine in Ophthalmology, By R. DEUTSCHMANN.
6. Bier's Method of Stasis in Acute Suppurative Processes of the Ear, By STENGER.

1. **The Ætiology of Cancer.**—Schmidt has discovered, as is supposed, the real cause of cancer. Together with its intermediate host it has not only been isolated, but developed in pure culture. It has been used for the production of inoculation carcinoma, and also for specific reaction. It consists in an amœba, recognizable by its motility, and precipitating to a formless mass of protoplasm when placed in a preparation suitable for examination. In due time it becomes encysted and disintegrates by sporulation. As this parasite does not develop throughout the entire culture medium, Schmidt looked for the intermediate host and found it in the fungi, which are of common occurrence in malignant new growths. In the cultures of a mucor racemosus developed from malignant tumors Schmidt demonstrated his parasites in the form of permanent cysts. By means of this parasite containing material he developed tumors in rats and mice resembling the Jensen tumors in mice, and in one instance he obtained a real carcinoma, the malignancy of which was demonstrated by its microscopical appearances, a result which heretofore has not been attained. Finally, by injections of a pure culture of his parasitic fungus he obtained a specific cancer reaction, with fever and local phenomena, in four subjects.

2. **Regeneration of the Sheath of the Peripheral Nerves.**—Raimann advances the following propositions as the result of his experiments: 1. The degenerative as well as the regenerative changes in the nerves of new born animals proceed more rapidly and more extensively than in adult animals. The regenerative energy is so great that special measures must be taken to obtain anatomical interruption in the peripheral nerves. 2. The function of the central with the peripheral nerve stump is effected by fibres of protoplasm, which grow vigorously from proximal to distal end. They are of the same quality, but some are of smaller calibre than others. The same fibres would continue to grow and bridge over a second lesion if it were present, forming a new peripheral stump. 3. From this point some of the fibres undergo the formation of a marrow or axis cylinder. Up to this point union with a nerve centre has not been essential. The marrow formation now goes on uninterruptedly, first in the central portion of the injured nerve. 4. The nerve marrow (axis cylinder) first appears in the form of central balls, which combine by means of suitable fibres and form a central marrow cylinder. The fibrils then diverge to the periphery. 5. Finally, the identity of the regeneration process in all cases must be noted. As the fibrils show different stages of development in the same segment, they also show much greater differences in the path of the nerves. These changes and developments in the nerves take place notwithstanding contact with muscle, connective tissue, fat, and other substances.

3. **Posthemiplegic Motor Disturbance.**—Friedländer advises slow passive movements as the first measure of treatment, without violence, with four or five applications to each of the affected joints. These should be repeated several times daily. Only those muscles should be massaged in which the function is incomplete. Such muscles should also receive the galvanofaradic current. This treatment should be followed by active movements with suitable gymnastic exercise. A systematic series of exercises should follow with the view of correcting the imperfect coordination of opposing groups of muscles, and overcoming the difficulties in walking. It is recommended that such exercises, which are enumerated in detail, should be carried out before a mirror.

5. The Use and Abuse of Atropine in Ophthalmology.—Deutschmann observes that atropine dilates the pupil and renders accommodation impossible by paralyzing the ciliary muscles. Its use is justifiable in cases in which growths of the iris are to be attacked, or contraction of the ciliary muscle to be restrained, or investigation to be made concerning the conditions which obtain behind the iris. It is often used in cases in which not one of these three indications is present, and often to the misfortune of the patient. The accommodation often continues to be paralyzed long after the cause for producing it has been removed. Its use may result in an attack of glaucoma, an old solution may cause infection through slight defects in the conjunctival epithelium, repeated instillations may cause irritation of the connective tissue, and the diminution of the surface of the iris diminishes the amount of light entering the eye.

6. Bier's Method of Stasis in Acute Suppurative Processes of the Ear.—Stenger has used this method in acute aural inflammations by bandaging the neck for twenty-two hours, and also by producing a partial vacuum (suction). By the first of these methods he treated with success acute inflammatory troubles of the ear following colds. The stasis was not disagreeable to the patients, suppuration increased, and the entire effect seemed to be favorable. It is contraindicated if there are growths in the pharynx, and to be recommended when the first symptoms of the disease have abated. Only in severe cases is it to be adopted as a primary measure. In acute mastoiditis the suction method has been combined with the operative measures. An opening having been made into the bone a strip of gauze was introduced and over this was placed a cupping glass. This was soon filled with blood, pus, and serum. This procedure was repeated daily for several days, the glass being left in position for several hours.

ANNALS OF GYNÆCOLOGY AND PÆDIATRY

May, 1906.

I. Chlorinated Lime in Surgery, By D. H. STEWART.

1. Chlorinated Lime in Surgery.—Stewart has abandoned the commercial chlorinated lime as less efficient for good and more efficient for evil than the more expensive purified product. The most successful agents for disinfection and antiseptics at the present time, notwithstanding the multitude that has been imposed upon the profession, are chlorine and heat. The author proposes to abandon all complications, and use these two agents, omitting the bichloride exclusively. The excellent experimental results obtained by means of soap and scrubbing brushes finally led him to the reduction of the problem of cleansing to four essentials: 1. A cake of sapolio. 2. A pound of granulated sugar. 3. A pound of aluminum sulphate. 4. A pound of Squibb's calx chlorinate. To this may be added a pound of washing soda for instruments. His method of cleansing the hands is as follows: Wet the hands with warm water and rub them thoroughly with sapolio. Rub a teaspoonful of granulated sugar with the sapolio lather until it is syrupy, then wash it off. Then wash the hands in a sterile basin containing a quart of sterile water, two heaping teaspoonfuls of the lime, and one heaping teaspoonful of the aluminum. Next dip the moist finger ends into a saucer containing a heaping teaspoonful of lime, and work it under and around the nails until a creamy lather covers them, and permeates all their cavities, then work it down the hands, and finally wash the hands in the basin of lime and aluminum solution. Then draw on gloves if they are to be used, while the hands are wet.

AMERICAN JOURNAL OF OBSTETRICS.

May, 1906.

I. Puerperal Eclampsia. Statistics of Columbia Hospital, By J. F. MORAN.

Some Clinical Observations on Puerperal Eclampsia, By J. F. MORAN.
 1. Puerperal Eclampsia, By J. F. MORAN.
 2. Puerperal Eclampsia, By J. F. MORAN.
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 4. Puerperal Eclampsia, By J. F. MORAN.
 5. Puerperal Eclampsia, By J. F. MORAN.

By C. G. LEVISON.

7. Ventrofixation Followed by Normal Delivery, By A. LAPHORN SMITH.

8. A General Surgeon's Views on Some Pelvic Conditions, By F. T. MORGAN.

9. Radium Therapy in Pædiatrics and Gynæcology, By J. C. HUBBARD.

10. Some of the Surgical Conditions of the Puerperium, By J. C. HUBBARD.

1. Puerperal Eclampsia.—Moran quotes Zweifel in calling this the disease of theories. When it is caused by toxic substances apart from bacteria and ptomaines it may be due to the food, to intestinal fermentation, or to catabolic changes of cell nutrition. The fœtus and the placenta have been blamed as the cause of the toxic condition. Other causes are defective renal elimination, also defective intestinal, biliary, cutaneous, or pulmonary elimination. In addition to accumulation of toxic material within the body, there may also be deficient destruction of it, the liver especially failing to properly perform its work. Prophylaxis may consist of medical, hygienic, and dietetic measures. If the symptoms are generally unfavorable the pregnancy may be terminated, especially if the fœtus is viable. Elimination, sedation, and safe delivery are the elements of the therapeutics of eclampsia. Anæsthetics should be avoided if possible, also morphine and pilocarpine. Chloral, veratrum viride, nitroglycerin, and venesection are advocated. The various operative measures are useful, but not as routine procedures. One should have the wisdom to select the proper plan and act promptly.

2. Clinical Observations on Eclampsia.—Ryder offers the following indications for treatment. The curative treatment consists in: (1) Controlling the convulsions. (2) Emptying the uterus. Rapid emptying of the uterus causes immediate improvement if done early. Severe operative measures have a high mortality rate. (3) Stimulating the excretions. The excretions may be stimulated by cathartics, colon irrigation, hot packs, venesection, intravenous salt solution, caffeine, sodium salicylate, and strychnine.

3. Leucocyte Counts in Gynæcology.—Taylor thinks it is not possible to arrange tables illustrating the value of a leucocyte count as a guide to the progress and outcome of a case. A low count in a very sick patient gives a bad prognosis. A high count is an indication of better resistance and also of the extent of the disease. A decreasing total count and a decreasing polynuclear percentage are both indicative of improvement. In septic hospital cases following abortion with extensive pelvic exudate the change in leucocyte count from day to day is of importance in making a decision as to operation. Subsequent to operation there is a leucocytosis of several thousand above the total count prior to operation, and a large polynuclear increase. This leucocytosis subsides in a few days and must not be confused with that which may attend such complications as wound infection, phlebitis, pneumonia, peritonitis, etc.

5. The Time of Ovulation.—Rowe offers the hypothesis that ovulation occurs normally at the close of the period of quiescence, and initiates and directly causes the period of hypertrophy. Menstruation, however, is the result of the exhaustion and disappearance of the stimulus. If the ovum dies all the preparations made for its reception are useless. Menstruation is therefore a proof that the last ovum discharged from the ovary is dead. If the ovum does not die, the stimulus begun with ovulation continues and the time for

menstruation passes without the occurrence of the flow. Eliminating accidental or pathological causes of omitted menstruation and considering only normal cases, if menstruation does not occur the last ovum expelled from the ovary is still alive. If alive at the time of the next expected, but suppressed period, the ovum must have been fertilized, for otherwise menstruation would have occurred.

7. Ventrofixation Followed by Normal Delivery.—Smith offers the following conclusions: 1. In cases in which retroversion is the only lesion the Alexander operation is to be preferred. 2. The modification in the technics of this operation which the author has made after having performed it more than three hundred times is to cross one ligament under the skin, tying the two ligaments with a reef knot opposite the right external ring, and securing the knot from slipping with fine catgut. 3. The author's success with ventrofixation for the past fifteen years in almost all of the three hundred cases in which he has used it satisfies him with his technique which consists in scarifying an area of an inch in diameter on the anterior surface of the fundus, in a similar procedure on the abdominal peritonæum, then anchoring the uterus by two chromicized catgut stitches passing through peritonæum, muscle, and fascia on both sides, and deep in the uterine wall. 4. In both the Alexander and the ventrofixation operation the cervix must be amputated if it is too long, leaving the uterus only two and a half inches in depth, thus lightening the burden to be carried by the shortened ligaments, or by the adhesions.

ANNALS OF SURGERY.

May, 1906.

1. Resection of a Portion of the Chest Wall and of the Diaphragm for Primary Sarcoma of the Pleura,
By S. DERUGINSKY.
2. Observations on the Diagnosis and Treatment of Typhoid Perforation,
By G. WOOLSEY.
3. Combined Operation for the Removal of the Appendix and the Cure of Right Inguinal Hernia,
By F. TOREK.
4. Appendicular Femoral Hernia, with Notes of One Hundred Cases,
By A. C. WOOD.
5. Inguinal Properitoneal Hernia. Inguinal Interstitial Hernia,
By A. E. HALSTEAD.
6. The Ætiology of Certain Congenital Tumors of the Groin,
By R. H. RUSSELL.
7. The Determination of the Functional Capacity of the Kidneys,
By A. A. BERG.
8. Ureteral Calculus. With a Report of Five Cases,
By I. B. DEEVER.
9. The Transperitoneal Examination of the Ureter in Cases of Suspected Ureteral Calculus, and the Combined Extraperitoneal and Intraperitoneal Uterolithotomy,
By J. H. GIBBON.
10. The X Ray Findings in a Case of Griggs-Stokes Amputation,
By E. R. CORSON.
11. Epiphyseal Separation of the Great Trochanter, with Report of a Case,
By C. O. THIENHAUS.

5. Inguinal Properitoneal Hernia.—Halstead classifies interstitial hernias by the position occupied by the interparietal sac. If the sac is in the planus of the abdominal wall it is interparietal, or interstitial. The inner sac has been found as follows: 1. Between peritonæum and transversalis fascia, the rare properitoneal hernia. 2. Between the internal oblique and the aponeurosis of the external oblique, the most common form. 3. The parietal sac may lie between the skin and the external oblique. The three types have much in common. Arrest of descent of the organs of the inguinal canal is a common cause. An improperly fitting truss may do great harm. The diagnosis is easily made if the anatomical types of hernia are remembered. The treatment can only be operative. The presence of a retained testis contraindicates a truss. When a parietal sac exists a truss will increase the risk of strangulation.

6. Congenital Tumors of the Groin.—Russell summarizes by stating that the congenital origin of the femoral hernial sac is shown by (1) its composition, especially by the presence of a thick fibrofatty covering containing a quantity of unstumped muscular fibre, (2) by the various positions it assumes especially in passing upward upon the abdomen, (3) by various other clinical characteristics. The femoral sac is formed by the inclusion in the embryonic state of a diverticulum from the primitive pleuroperitoneal cavity with its mesoblastic wall.

7. The Determination of the Functional Capacity of the Kidneys.—Berg says this is a threefold problem: (1) What is the combined work of the kidneys? (2) What part of the total is each organ doing? (3) What is the potential functional capacity of each organ? If a nephrectomy is contemplated the health or disease of the other organ must be determined by withdrawing urine from it through an aseptic ureteral catheter. If healthy the operation may be performed, if diseased no operation should be performed. The combined work of the kidneys is determined by the freezing point (cryoscopy) of the blood and the amount of urea eliminated in twenty-four hours. The work of each individual organ is determined from the percentage of urea in the individual urines, from the sugar and chromogen in each urine after a hypodermic of phloirdzin and methylene blue and from the cryoscopic index of the individual urines.

8. Ureteral Calculus.—Deaver says such calculi may be arrested at three points: (1) Two inches from the renal pelvis. (2) At the brim of the pelvis. (3) At the vesical orifice of the ureter. If the stone escapes into the bladder there are symptoms of vesical calculus, if it remains in the kidney there are symptoms of renal calculus. The rule of surgery in doubtful cases is to explore the kidney through the loin and then pass a sound down the ureter before concluding the operation. Tenderness at the seat of impaction and a perfect skiagram are valuable aids to diagnosis. If the stone is near the bladder it should be removed intravesically, if more than an inch from the bladder wall it should be removed extraperitoneally. An incision into the ureter should be avoided if possible. An incision through the renal cortex or directly into the pelvis of the kidney is preferable, drainage being better, while the wound can be more accurately sutured.

9. Ureterolithotomy.—Gibbon palpates the ureter through an abdominal wound as a routine measure if symptoms present are not explained by conditions found elsewhere. He reports two cases in which stones were removed extraperitoneally, but through an abdominal incision. A finger in the peritoneal cavity compressed the ureteral stone while the ureter was being exposed. The objection that infection of the peritonæum is liable to occur by stripping it away from its attachment did not apply in his cases. By thus operating within and behind the peritoneal cavity the ureteral stone can be pushed into the bladder should that seem desirable. This combined method is advised for doubtful cases rather than the removal of stones through the peritonæum. In neither case was the ureter sutured, but it is believed that closure of the ureter would be preferable, a drainage tube being carried down to the sutures. If the ureter is very much injured its suture would be inadvisable.

11. Epiphyseal Separation of the Great Trochanter.—Thienhaus advises for all cases in which such separation is suspected absolute rest in bed and avoidance during examination of forcible, active, and passive motion, as this may result in suppuration and convert an incomplete into a complete separation. If the x ray shows incomplete separation a plaster cast well protected with cotton should be applied, enclosing both the leg and the pelvis, the patient remaining in bed six to

eight weeks. If separation is complete the author advises immediate operation and suture of the great trochanter to its place. Should inflammation follow the sutures must be removed and incision and drainage be employed.

EDINBURGH MEDICAL JOURNAL.

May, 1906.

1. Deafness Due to Hysteria and Allied Conditions,
By P. McBRIDE.
2. The Radical Cure of Inguinal Hernia,
By J. S. McARDLE.
3. On the Violation of Courvoisier's Law,
By B. S. A. MOYNIHAN.
4. Occupation Mortalities,
By J. C. DUNLOP.
5. The Clinical Significance of the Cerebrospinal Fluid,
By P. STEWART.
6. Intraperitoneal Hæmorrhage Occurring During Labor,
By D. A. CALLENDAR.

1. Deafness Due to Hysteria and Allied Conditions.—McBride believes it necessary for an examiner to ask himself the following questions in making a diagnosis: 1. Is there any marked discrepancy between the history and the results obtained by objective examination? 2. Do the history and manner of the patient suggest hysteria? 3. Do history and results of examination accord with any of the recognized forms of organic deafness? 4. Is there any evidence of sudden improvement of hearing when the patient is interested? 5. Do repeated hearing tests give the same results? 6. Does the patient, with the good ear closed, fail to hear a voice so loud that it ought to be detected with the closed ear? 7. Does he or she hear the tuning fork by bone conduction worse when the good ear is closed? 8. Do hearing tests give varying results?

2. The Radical Cure of Inguinal Hernia.—McArdle describes an operation which he says he has performed five hundred times without a death, during the past twenty years, and with scarcely a recurrence. His conclusions are the following: 1. Without opening up the inguinal canal no complete operation can be performed. 2. It is a matter of little importance how the hernial sac is disposed of. It has no bearing in the matter if it is so treated as to leave the inner surface of the abdominal wall perfectly smooth, as it is in the normal condition. A new sac forms readily if the mid stratum of the abdominal wall is defective at any point. 3. There is no evidence in favor of opposing the arrangements of nature by displacing the cord, as in Bassini's method. 4. To properly reconstruct the inguinal canal, the internal oblique and transversalis muscles as well as the conjoined tendon should be brought down to Poupart's ligament. 5. The complete overlapping of the pillars of the external ring forms a firm basis of support for the healing of the underlying structures.

3. On the Violation of Courvoisier's Law.—Moynihan quotes Courvoisier's statement as follows: "In cases of chronic jaundice due to obstruction of the common bile duct, a contraction of the gallbladder signifies that the obstruction is due to a stone; a dilatation of the gallbladder that the obstruction is due to causes other than stone." Much evidence is brought forward to show the importance of this statement, but the law may be violated under the following circumstances: 1. Where there is a stone or stricture in the cystic duct causing dropsy or empyema, together with the acute impaction of a stone in the common duct. 2. Where there is a stone in the cystic duct pressing upon the common duct. 3. Where there is distention of the gallbladder by an acute inflammatory process, with obstruction of the common duct by stone. 4. Where there is chronic induration of the head of the pancreas, with a stone in the common duct. 5. Where there is malignant disease of the common duct at any part of its course, or cancer of the head of the pancreas, and a chronic sclerosing cholecystitis. The vio-

lations of the law constitute about ten per cent. of all cases, but they rarely cause difficulty in diagnosis when the other symptoms are taken into consideration.

5. The Clinical Significance of the Cerebrospinal Fluid.—Stewart describes the method of obtaining this fluid, and states that its clinical applications may be considered as diagnostic and as therapeutical. Of the former the physical character often gives valuable information. Instead of being clear and watery it may be turbid or purulent, as in meningitis. In jaundice it is yellow and clear, and in hæmorrhage into the brain or cord it may be blood stained. As to its chemical characters it may have an excess of albumin in acute meningitis, it may contain fibrin or cholin, either of which points to disease. As to bacteria it may contain the meningococcus, the tubercle bacillus, staphylococci, streptococci, pneumococci, etc. Microscopically, it may contain parasites, tumor cells, or leucocytes. As a therapeutic measure lumbar puncture is used to relieve intracranial pressure in tubercular meningitis in cerebral tumor, in cerebral hæmorrhage, in coma from fracture of the base of the skull, in uræmic coma and convulsions, and in tetanus.

Letters to the Editors.

LEPROSY AND PEDICULI.

ORANGE, CAL., May 17, 1906.

To the Editors: Your editorial on The Spread of Leprosy and Plague by Insects does not mention pediculi as a probable means of communication.

During the twelve years I had charge of the Presbyterian Hospital in Weihsien, Shomtung, China, I saw many cases of leprosy, and the history of many of them was that they began on the inner side of the thigh, a favorite haunt of the body louse. My Chinese assistants said that it was their belief that leprosy could be and was communicated by pediculi. I had no means of thorough investigation. It would be well to call this belief among the Chinese to the attention of some one who can pursue the investigation.

W. R. FARIES.

THE TOE REFLEX.

1606 WALNUT STREET,

PHILADELPHIA, May 14, 1906.

To the Editors: In the *Neurologisches Centralblatt* for April 1st there is an article by Professor W. von Bechterew entitled A Peculiar Reflex Manifestation—on Plantar Flexion of the Foot and the Toes in Cases of Disease of the Central Motor Neurone. In this he describes a reflex phenomenon which is produced by strong plantar flexion of the toes, stating that he has observed it in cases of "traumatic affections of the spinal cord, spinal syphilis, and myelitis with excessively increased reflexes." The description given by him is as follows: "If the foot of the patient is grasped, and it, with the toes, is brought into strong plantar flexion, the plantar flexion is at once followed by dorsal flexion of the foot and toes; in marked cases and when plantar flexion is considerable, flexor movement at the knee and hip takes place in addition to dorsal flexion of the foot and toes. The manifestation is clearly a special reflex phenomenon brought about by torsion of the tendons of the dorsal flexors of the foot and the extensors of the toes and giving rise to contraction of the corresponding muscles, this being followed in turn by dorsal flexion of the foot and toes."

This is exactly the description which I gave of the same phenomenon in a paper which was published in the *Medical News* for December 1, 1888. In 1886 I presented at the Philadelphia Neurological Society a patient in whom I demonstrated what I termed "the

toe reflex." The case was one of spastic paraplegia, and when the great toe alone or all of the toes were strongly flexed, there immediately followed dorsal flexion of the foot, then flexion of the leg, and lastly flexion of the thigh on the pelvis. I stated that I had observed the phenomenon in only cases in which there were exaggerated knee jerk, ankle clonus, and excessive plantar reflex. Some one raised the question as to whether it was not a pain reflex and to a certain extent voluntary, but I was able to prove that this was not the case by the fact that the toe reflex was readily elicited in patients who were suffering from pressure myelitis with resulting complete paralysis of motion and sensation. I have recently examined a patient suffering from syphilis of the brain and cord, in whom there was marked Babinski phenomenon and exaggerated toe reflex, and yet there was complete absence of knee jerk and no ankle clonus could be obtained, demonstrating that there are different centres for the knee jerks, the Babinski phenomenon, and the toe reflex, and that in all probability the same centre is concerned in the two latter phenomena.

WHARTON SINKLER.

A PECULIAR ACCIDENT.

529 WEST ONE HUNDRED AND ELEVENTH STREET,
NEW YORK, May 19, 1906.

To the Editors: On May 1st Mrs. M., thirty-five years of age, came to my office complaining of having "a pin in her head." The history she gave was that while she was removing a large college flag from the wall where it was pinned, it fell and she felt a pin prick on the head. A friend of hers tried to pull out the pin, but without success.

On examination, a black headed pin, some 4 cm. in length, was found piercing the scalp and at right angles to it, at a point corresponding to the frontoparietal suture, directly above the left eye. The pin could neither be rotated nor withdrawn with ordinary force. No pain was felt, there was no bleeding, and there were no signs of concussion, etc. With the aid of a strong artery clamp, and by exerting all my strength, the pin came out. The shaft, to a distance of $\frac{1}{2}$ cm. from the point, was bent, and a mark $1\frac{1}{2}$ cm. from the point showed the distance the pin had been driven in. No further trouble followed the accident.

My idea is that the pin struck the suture line, and, when part way through, the point was deflected by a process of bone, and as it were "clinched." What struck me as most peculiar was the slight extent to which the patient's attention was drawn to the traumatism.

CHARLES D. CLEGHORN.

Proceedings of Societies.

ASSOCIATION OF AMERICAN PHYSICIANS.

*Twenty-first Annual Meeting, Held in Washington,
May 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 1906.*

The President, Dr. FRANK BILLINGS, of Chicago, in the Chair.

(Continued from page 1158.)

Disseminated Sclerosis.—Dr. JOSEPH COLLINS, of New York, called attention to the fact that, while in Germany disseminated sclerosis was next to locomotor ataxia in its frequency, and Strümpell considered that there was probably even more of it than of tabes, and while Byron Bramwell found 110 cases among 5,500 nervous patients in England, in this country it was considered extremely infrequent. The reason for this was very probably not its actual infrequency, but failure to recognize the disease. The typical symptoms were looked for, nystagmus, syllabic speech, intention tremor and spastic paraplegia. Many cases of the disorder,

however, were wholly atypical in the beginning. There was no good reason why it should be rarer in this country than in other countries, and it was probably because of too great rigorousness in diagnosis that the affection was not diagnosticated more frequently. Dr. Collins thought that spastic paraplegia with absence of the abdominal reflex should always be considered as suspicious. In the absence of syphilis, the occurrence of a pallid optic disc, especially in the temporal half, should be looked upon with more than a suspicion that the early stages of disseminated sclerosis were impending.

Dr. SACHS, of Philadelphia, said that the diagnosis of disseminated sclerosis could always be made absolutely. The absence of the abdominal reflex was too common to have much significance.

Dr. WHARTON SINKLER, of Philadelphia, said that disseminated sclerosis was undoubtedly commoner than was thought in this country, but unless care was exercised, one was apt to make the diagnosis too frequently.

Mental Disorders in Acute Chorea.—Dr. B. SACHS, of New York, said that in eight or ten cases of chorea under his personal observation from the very beginning it had been easy to recognize them as grave or almost surely fatal. In these cases there were not infrequently mental symptoms which were almost typical of the affection. The most prominent features of the disease were that it usually occurred in comparatively young persons and that there seemed to be, as in a recent case under his observation, a generalized infection. Some of these cases might begin in as simple an incident as a curetting, and yet there might follow symptoms so severe as to require restraint. The termination was likely to be stupor deepening into fatal coma.

Dr. SINKLER said that mental symptoms were not necessarily of bad prognosis in chorea.

Dr. SOLOMON SOLIS COHEN said that chorea had its specific remedy, and, as it was only infections that had specifics, this would seem to be another demonstration of its infectiousness. He wondered, then, whether Dr. Sachs would consider his cases as having arisen from secondary infection.

Dr. SACHS said that, while chorea was sometimes infectious, it was not always so, and some cases were surely due to nervous exhaustion. The very grave cases, however, were certainly due to general infection.

Stomach and Intestinal Peristalsis.—Dr. F. PFAFF, of Boston, read for himself and Dr. Nelson a description of some details of observations upon the peristalsis of the stomach and intestine of dogs after the administration of aperients. The method employed was not that of using the rays, because this often produced an illusion of movement without any real movement occurring. The animals were anesthetized, and then, after four hours, were observed with the viscera exposed in a bath of salt solution. The peristaltic movements of the stomach were most affected by croton oil and aloes. These lessened the number, but increased the intensity of peristaltic movements. Podophyllin was third in the order of its influence on peristalsis. Scammony, though several samples were tried, had no effect at all. Cascara and rhubarb affected the small and large intestines, but not the stomach.

Dr. S. S. MELTZER, of New York, said that peristalsis in a salt bath was not the same as under normal conditions. Observations on peristalsis might be made through the unbroken skin, and this was the only way to secure reliable results.

Dr. HARE, of Philadelphia, said that Dr. Pfaff's experiments illustrated the futility of observations on animals in some cases. Elaterium and scammony were two substances that did not act on animals, though they acted on human beings. There was undoubtedly a selective action in the intestines, enabling them to pass

on some materials and retain others. Peristalsis, then, was not merely crude mechanical movement.

Refined and Concentrated Diphtheria Antitoxine.—Dr. W. H. PARK, of New York, said that experiments had been made in the New York Department of Health to secure a diphtheria serum which would have as few as possible of the inconvenient effects, rashes and the like, which occasionally occurred when the full serum was employed. By precipitation and solution in a solution of sodium chloride certain improvements had been effected. For one thing, the serum was more concentrated, so that only one fifth of the original fluid need be employed. Certain horses gave sera that were likely to be especially troublesome, and these, when treated after this manner, became comparatively innocuous.

Hæmachromatosis and Diabetes Mellitus.—Dr. T. B. FUTCHER, of Baltimore, reported a case of this comparatively rare condition. There was a triad of symptoms, all of which were looked for. They were pigmentation of the skin and viscera, hypertrophic cirrhosis of the liver, and persistent diabetes. The pigmentation was found to be due to the deposition of iron, which could be demonstrated in the cells of the sweat glands and in other portions of the skin and also in the organs. One of the cases he reported occurred in a man who had been addicted to alcohol. The other patient was not a drinker. The French clinicians considered the diabetes to be the primary factor. German clinicians, following Recklinghausen, considered that the primary change was in the blood. Occasionally there were epistaxis and purpura. Of 256 patients with diabetes observed at the Johns Hopkins Hospital in sixteen years, only two suffered from hæmachromatosis.

Bacillus Coli Septicæmia with Hæmolysis.—Dr. A. D. BLACKADER, of Montreal, reported for himself and Dr. B. D. GILLIES a case of septicæmia produced by the *Bacillus coli communis*, with many interesting features.

Dr. JANEWAY, of New York, called attention to the fact that in some cases of supposed general infection the underlying cause was the absorption of mercury bichloride given as a douche or administered by mistake. In one of the cases recently seen the bichloride was given by mistake as a douche in the rectum. Of course dysenteric phenomena were always present in bichloride poisoning, and these had not been noted in Dr. Blackader's case. It seemed worth while, however, to call attention to the possibilities of bichloride poisoning, since the speaker had recently seen four such cases in which there had been no suspicion of the real cause.

Dr. STERNBERG said that occasionally the injection of colon bacilli gave the set of symptoms described by Dr. Blackader. When such cases occurred in human beings in tropical climates, they were sometimes mistaken for yellow fever. Undoubtedly certain forms of the colon bacillus that were especially pathogenic had been thought to be the microorganism of yellow fever. Some persons seemed to be especially susceptible to the influence of such colon bacilli.

Universal Itching Without Lesions.—Dr. JOHN K. MITCHELL, of Philadelphia, described a case in which there was universal itching and in which no good cause could be found in the ordinary conditions that were supposed to give rise to itching. There was no icterus, no enlargement of the liver and spleen, though the affection was accompanied by severe insomnia. The urine was of a port wine color and was found to contain much urobilin. This was considered not to be due to bilirubin, but to come directly from the blood. A peculiar granular degeneration of the red corpuscles was noted, with some leucocytosis and high eosinophilia. The treatment that proved effective consisted of hot air baths several times a day and frequent hot water baths to relieve the itching, the man getting up several times a night to take such baths. The effect of these was increased by adding alkalies or bran. There was no

history of syphilis, yet the man improved on mercury and potassium iodide.

Essential Pentosuria.—Dr. THEODORE JANEWAY, of New York, described two cases of this rare affection, hitherto unreported in this country. The patients were brothers.

Aplastic Anæmia.—Dr. R. S. LAVENSON, of Philadelphia, reported a case of this rare and fatal condition. The patient was a woman of thirty-five, previously in excellent health, who without ascertainable cause was seized with a profound and rapidly fatal anæmia. All the elements of the blood were lacking in quantity. There was a decrease in the number of both the red and the white cells, with marked diminution of the hæmoglobin. There were no parasites present in the intestines, and there was no pathological condition in the urine. Shortly before her death the hæmoglobin had become reduced ten per cent. and there were fewer than a million red cells. At the autopsy fatty degeneration of all the organs was found. The distinctive feature of the autopsy was the absence of any red changes in the marrow. It was absolutely pale. Examinations of sections of the marrow showed no megakaryoblasts and no normal myeloblasts. Before death no megakaryoblasts had ever been present in the blood, for these had been carefully looked for. It seemed clear that there was a total disappearance of the blood making power. About ten cases of this aplastic anæmia had been reported. The average duration of the disease was about three months.

Dr. RICHARD H. CABOT, of Boston, said that the marked clinical difference between this form of anæmia and ordinary pernicious anæmia was that, though the latter was called progressive anæmia, there were variations in its course and distinct intermissions in which the patient's condition became much better. In aplastic anæmia, however, the course was continuously toward a fatal issue.

Dr. WARTHIN, of Ann Arbor, said that in nearly all the cases of so called pernicious anæmia in Michigan there were no changes in the marrow. It would seem, then, that the condition was not so rare as had been thought. It seemed more likely to be hæmolysis rather than apiasia, a dissolution of blood cells rather than a failure for them to form, which was the basis of progressive anæmia.

Dr. STENGEL, of Philadelphia, said that in most cases it was only certain areas of the marrow that became red, and these must be carefully looked for. In this case even these areas were absent, though probably this change was not the primary one.

Dr. THAYER, of Baltimore, said that there was a definite distinction between these cases and those of ordinary pernicious anæmia. All power of blood regeneration seemed to be lost in these cases.

Dr. SHATTUCK, of Boston, suggested that it was only a difference in the intensity of the process that distinguished these progressive anæmia cases, and that a new name seemed scarcely necessary. The fatality and fulminant character were not sufficient to make a distinction. Hæmorrhagic and ordinary smallpox were not essentially distinct, though very different.

Multiple Cerebral Hæmorrhage and Exophthalmus in Leucæmia.—Dr. JAMES B. HERRICK, of Chicago, reported cases of leucæmia in one of which the unusual symptom of multiple cerebral hæmorrhages was found at the autopsy, and in the other a distinct bulging of the eyeballs. In this latter case the affection was acute leucæmia of a mixed lymphatic and myelogenous type in which bilateral exophthalmus was the most striking feature. At the autopsy a retrobulbar leucæmic infiltration was found to account for the prominence of the eyes. There were no chloromatous masses anywhere in the body.

Dr. WARTHIN, of Ann Arbor, said that such growths at the back of the orbit were not at all uncommon in

leucæmia, though, unless they caused distinct protrusion of the eyes, they were missed at the autopsy.

The X Rays and Leucæmic Serum.—Dr. J. A. CAPPS, of Chicago, read for himself and Dr. J. F. Smith a paper on some experimental studies on the serum of individuals suffering from leucæmia who had been treated by x rays. When strong leucolytic serum from x rayed patients was injected into leucæmic patients not under treatment, the result is a drop in the number of leucocytes. After some days this was recovered from, however, when another injection would usually not produce so marked a result and recovery would take place in a shorter time. After further injections the leucæmic patient seemed to become immune to the effects of the serum. When this serum was brought in contact with freshly drawn, actively mobile white blood cells from human beings in the hanging drop, it was seen to produce a definite paralytic action upon them. This action was selective and affected the mononuclear leucocytes more than the polynuclears.

Dr. WARTHIN, of Ann Arbor, said that sudden drops in the leucocyte count were not unusual in leucæmia. As many as 200,000 or more leucocytes might disappear without any reason, and yet the average number be found a few days later. The leucocytes in leucæmia were very unstable. In pneumonia a patient with several hundred thousand leucocytes might have a drop to 4,500. These peculiar phenomena did not affect the course of the disease.

Dr. EDSALL, of Philadelphia, said that to his mind the main influence of the x rays was to influence fermentation in the tissues.

The Nucleus Test in Pancreatic Diseases.—Dr. J. DUTTON STEELE, of Philadelphia, discussed the value of Adolph Schmidt's test for the diagnosis of pancreatic diseases. According to experiments on dogs, when complete degeneration of the pancreas existed the nuclei in the muscle of meat that has been eaten are not digested. The finding of them in the meat fibres of the stools suggested the diagnosis of absence of the pancreatic juice. Dr. Steele has confirmed this finding of Schmidt's, but had also discovered that certain disturbances of the digestive tract might cause the same phenomena.

Dr. MUSSER, of Philadelphia, said that there was no finality in the diagnosis of disease of the pancreas from either the urine or the fæces. It was only by careful study of the history of the case and physical examination that the possibility of involvement of the pancreas could be recognized. Gamages's test had proved no more helpful than previous suggestions in this matter.

Dr. EDSALL said that the presence of the ethereal sulphates in the urine was not a criterion of pancreatic disease. Neither could fat digestion be taken as a test. The presence of pancreatic ferments in the urine could not be put on a clinical basis.

Dr. LEWELLYS F. BARKER, of Baltimore, said that Gamages's test is utterly without reliability. As a matter of fact, the crystals which he described were probably due to bichloride of mercury which he had previously added.

The Digestive Activity of Pepsin in the Stomach.—Dr. SAILER, of Philadelphia, discussed recent methods for the estimation of peptic activity. He also described the effect of various food preservatives upon peptic digestion. Boric acid in his experiments did not inhibit the activity of pepsin. Benzoic acid, however, proved strongly inhibitory. The salicylates, even in small quantities, completely inhibited all peptic digestion. Sodium sulphate was strongly inhibitory. Solutions of common salt were slightly hampering in their effects upon peptic digestion, while the action of alcohol was only very slight. The products of peptic digestion themselves tended after a time to have an inhibitory action upon peptic digestion.

(To be continued.)

Book Notices.

On the Relation of Diseases of the Skin to Internal Disorders. With Observations on Diet, Hygiene, and General Therapeutics. By L. DUNCAN BULKLEY, A. M., M. D., Physician to the New York Skin and Cancer Hospital, Consulting Physician to the New York Hospital, etc. New York: Rebman Company, 1906. Pp. xv-175. (Price, \$1.50.)

It is undoubtedly true, as maintained by the author, that for many years, largely under the influence of the Vienna school of dermatology, attention was mainly directed to local ætiology, to the neglect of constitutional or internal conditions. That local therapy is most essential and is so commonly followed by favorable results no one can doubt, and as a logical result it is this somewhat uniform success of local measures which has done so much to impress on the medical mind the conviction that local treatment in skin diseases is all potent and in most cases fulfils all requirements.

Some years ago, under the stimulus of bacteriology, the idea prevailed that lesions of the skin were mostly due to microorganisms, and that such were in reality local infections. This contention is undoubtedly true concerning many and varied skin affections, but it does not possess breadth enough to warrant scientific generalization. The most that can be admitted is that many cases of skin lesion are due to minute organisms which are antagonistic to the skin tissues. Dr. Bulkley has entitled this series of lectures the relations of diseases of the skin to internal disorders. He very wisely does not venture to speak generally of internal conditions as causes of skin diseases, since by such a contention he would in many instances be on debatable ground. He very aptly remarks that a good dermatologist is one who understands the skin thoroughly or all that is known of it. And he says, "to practise dermatology in the best and most successful manner one must be an all round physician, recognizing and grasping everything which can contribute to the good or bad health of the patient, and therefore to the vitality of the skin whose disease is under treatment." No author can state specifically that a given case of skin disease is due to gout, though it is susceptible of proof that this far reaching and ill understood condition is in some way more or less actively causative in cases of eczema, acne, psoriasis, dermatoneuroses, and pruritus. Such is the testimony of clinical experience, and the logical conclusion is that in all such cases the underlying diathesis or morbid condition must be considered and treated.

In like manner skin lesions in the subjects of diabetes, obesity, bronchial affections, digestive disorders, hepatic disturbances, intestinal derangements, and urinary impairment should be treated, in addition to local therapy, on the broad ground of advanced general medicine. Dr. Bulkley's lectures are particularly interesting as regards the nervous disorders, such as neurasthenia, nervous shock, reflex phenomena, and actual nerve lesions, they all being more or less remotely connected with and probably causative of many forms of skin eruptions. As he says, "While local agencies undoubtedly have much to do with the production and continuance of some of them, there may be and frequently is a nervous element in the patient which will have much to do with their obstinacy."

In the present series of lectures local therapeutic measures are not treated of, but all that is germane to internal medicine and skin diseases is here quite succinctly and lucidly considered in the matters of diet, hygiene, and general therapeutics, a study of all of which sections will amply repay perusal.

Dr. Bulkley's little volume is progressive, suggestive, and illuminating, and will well serve as a basis for future study in this broad field.

Miscellany.

Minimum Temperature in Tropical Africa.—The *Geographical Journal*, for March, 1906, contains a useful abstract of a paper by Dr. J. Hoffman, in Petermann's *Mitteilungen*, on Minimum Temperature in Tropical Africa. The area dealt with is the south equatorial region, more particularly the high plateaux of East Africa. The author discusses the effect on the minimum of temperature of elevation, distance from the sea, rainfall and winds throughout the year, and attempts to deduce some general laws therefrom. He finds that the minima diminish with distance from the coast, and increase of latitude, but the variation with altitude cannot be stated simply, as the diminution is affected by many disturbing factors. The facts are different, e. g., for stations on a mountain range, on a plateau, or on the slope of an isolated peak rising from a plain; the general law of diminution for elevation holding good least of all for a mountain region cut up into valleys. Humidity and cloudiness are also disturbing factors as illustrated, for example, that under these circumstances a minimum of 39.2° F. was observed at 2,675 feet, near Rinvenzori, whereas so low a temperature had never been recorded up to 6,230 feet on Kilimanjaro. The important question as regards agriculture, of the limits of night frosts, is also considered and the conclusion arrived at is that, near the equator, there is no good evidence of actual frost at any height under 6,500 feet, though cold nights approaching freezing point are not uncommon.—Through *The Journal of Tropical Medicine*.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ending June 15, 1906:

Smallpox—United States.

| Places. | Date. | Cases. | Deaths. |
|-------------------------------|----------------|--------|----------|
| Dist. of Columbia—Washington. | June 2-9. | 2 | |
| Florida—General. | June 2-9. | 20 | |
| Georgia—Sapelo Island. | June 2-4. | 1 | Imported |
| Illinois—Cambridge. | June 2-9. | 10 | |
| Illinois—Chicago. | June 2-9. | 1 | |
| Kansas—Topeka. | May 26-June 2. | 1 | |
| Louisiana—New Orleans. | June 2-9. | 19 | 1 |
| Missouri—Joplin. | June 5. | 5 | Imported |
| Missouri—St. Louis. | May 26-June 2. | 1 | |
| Nebraska—Omaha. | May 26-June 2. | 1 | |
| New York—Buffalo. | May 1-30. | 1 | |
| New York—New York. | June 2-9. | 1 | |
| Ohio—Cincinnati. | June 1-8. | 2 | |
| Oklahoma—Oklahoma City. | May 26-June 9. | 14 | 1 |
| Pennsylvania—Lancaster. | June 2-9. | 1 | |
| Tennessee—Memphis. | May 31-June 6. | 3 | |
| Wisconsin—Appleton. | June 2-9. | 3 | |
| Wisconsin—Milwaukee. | June 2-9. | 2 | |

Smallpox—Foreign.

| | | | |
|--------------------------|-----------------|----|----------|
| Africa—Cape Town. | Apr. 21-May 5. | 13 | |
| Argentina—Buenos Ayres. | Mar. 1-31. | 68 | 52 |
| Brazil—Pernambuco. | Apr. 15-30. | 2 | 7 |
| Canada—Toronto. | May 26-June 2. | 2 | |
| Canada—Winnipeg. | May 26-June 2. | 1 | |
| Chile—Iquique. | May 5-12. | 1 | Present. |
| China—Hongkong. | Apr. 21-May 5. | 9 | 4 |
| Germany—Bremen. | May 19-26. | 1 | 1 |
| Gibraltar. | May 20-27. | 4 | |
| Great Britain—Hull. | May 19-26. | 1 | |
| Great Britain—Liverpool. | May 19-26. | 1 | |
| Greece—Athens. | May 21-28. | 4 | |
| India—Bombay. | May 8-15. | 8 | |
| India—Calcutta. | Apr. 28-May 5. | 13 | |
| India—Karachi. | Apr. 30-May 13. | 48 | 10 |
| India—Madras. | May 5-11. | 1 | |
| India—Rangoon. | Apr. 29-May 5. | 28 | |
| Italy—General. | May 7-24. | 30 | |
| Russia—Moscow. | May 5-19. | 22 | 8 |
| Russia—Odessa. | May 12-26. | 24 | 3 |
| Spain—Barcelona. | May 20-30. | 5 | |
| Turkey—Constantinople. | May 20-27. | 1 | |

Yellow Fever—Foreign.

| | | | |
|------------------------|------------|----|----------|
| Cuba—Havana. | June 7-12. | 2 | 1 |
| Honduras—Pimienta. | May 19. | 11 | |
| Mexico—Merida. | May 20-26. | 1 | |
| Santo Domingo—La Vega. | June 9. | 1 | Present. |

Cholera—Foreign.

| | | | |
|-----------------|----------------|----|---|
| China—Hongkong. | Apr. 28-May 5. | 1 | 1 |
| India—Bombay. | May 8-15. | 18 | |
| India—Calcutta. | Apr. 28-May 5. | 89 | |

Plague—Insular.

| | | | |
|------------------|---------|---|--|
| Hawaii—Honolulu. | June 4. | 1 | |
|------------------|---------|---|--|

Plague—Foreign.

| | | | |
|----------------------------|----------------|--------|--------|
| China—Hongkong. | Apr. 21-May 8. | 119 | 110 |
| Egypt—Bairi Soud Province. | May 14. | 2 | |
| Egypt—Munieh Province. | May 14-17. | 8 | 4 |
| Egypt—Keneh Province. | May 11-17. | 7 | 10 |
| Egypt—Port Said. | May 17. | 1 | |
| India—General. | Apr. 28-May 5. | 15,892 | 13,296 |
| India—Bombay. | May 8-15. | 659 | |
| India—Calcutta. | Apr. 28-May 5. | 129 | |
| India—Karachi. | Apr. 30-May 5. | 465 | 113 |
| India—Rangoon. | Apr. 30-May 5. | 66 | |
| Japan—Formosa. | Apr. 1-30. | 800 | 602 |

Public Health and Marine Hospital Service:

List of Changes of Station and Duties of Commissioned and Non-Commissioned Officers of the Public Health and Marine Hospital Service, for the seven days ending June 13, 1906.

AMESSE, J. W., Passed Assistant Surgeon. Granted leave of absence for six days, from June 5, 1906, under Paragraph 191 of the Regulations.

BLUE, RUPERT, Passed Assistant Surgeon. Assigned to special temporary duty in Washington, D. C., on board convened by executive order for the purpose of making sanitary inspection of certain public buildings and workshops, upon completion of which to proceed to Norfolk, Va., and assume command of Service.

BOGGESE, J. S., Assistant Surgeon. Granted leave of absence for seven days, from June 9, 1906, under Paragraph 191 of the Regulations.

CARLTON, C. G., Pharmacist. Granted leave of absence for twenty-nine days, from June 10, 1906.

CARMICHAEL, D. A., Surgeon. Bureau letter of May 3, 1906, granting Surgeon Carmichael leave of absence for seventeen days amended to read for fifteen days only.

COBB, J. O., Surgeon. Granted leave of absence for ten days, from June 25, 1906.

GLENNAN, A. H., Assistant Surgeon General. Granted leave of absence for eight days, from June 9, 1906.

HAMILTON, H. J., Acting Assistant Surgeon. Granted leave of absence for three days, from June 12, 1906.

McKAY, M., Pharmacist. Granted leave of absence for two days, from June 1, 1906.

SMITH, A. C., Surgeon. Granted leave of absence for one month, from July 2, 1906.

STIMSON, A. M., Assistant Surgeon. Directed to report to Medical Officer in Command, Stapleton, N. Y., for temporary duty.

Board Convened.

A board of medical officers was convened to meet at Chicago, Ill., on June 12, 1906, for the purpose of making a physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon G. B. Young, Chairman; Assistant Surgeon E. T. Olsen, Recorder.

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the week ending June 16, 1906:

APPEL, D. M., Lieutenant Colonel and Deputy Surgeon General. Detailed a member of the Army Retiring Board, San Francisco, Cal., vice Lieutenant Colonel Louis Brechemin, deputy surgeon general, relieved. Detailed a member of the examining board, San Francisco, Cal., vice Lieutenant Colonel Louis Brechemin, deputy surgeon general, relieved.

BOYER, PERRY L., First Lieutenant and Assistant Surgeon. Left from temporary duty at Oakland, Cal., with 2nd Squadron, 1st Cavalry, en route to rejoin station at Fort Sam Houston, Texas.

EKWURZEL, GEORGE M., First Lieutenant and Assistant Surgeon. Relieved from temporary duty at the Army General Hospital, Washington Barracks, D. C., and ordered to Fort Hamilton, N. Y., for temporary duty.

FULLER, LEIGH A., Captain and Assistant Surgeon. Relieved from duty at Fort Clark, Texas, and ordered to the U. S. Military Prison, Fort Leavenworth, Kansas, for duty.

GRAY, WILLIAM W., Lieutenant Colonel and Deputy Surgeon General. Left Chief Surgeon's office, Headquarters, Department of the Gulf, Atlanta, Ga., on sick leave of absence.

HALLOCK, H. M., Major and Surgeon. Sick leave of absence extended two months.

KIRKPATRICK, THOMAS J., Captain and Assistant Surgeon. Left Fort Moultrie, S. C., en route to Fort McPherson, Ga., for temporary duty.

KULP, JOHN S., Major and Surgeon. Promoted to the rank of major to date from May 26, 1906.

MARROW, CHARLES E., First Lieutenant and Assistant Surgeon. Left from temporary duty at the Army General Hospital, Washington Barracks, D. C., en route to rejoin station at Fort Monroe, Va.

PAGE, HENRY, Captain and Assistant Surgeon. Assignment to duty at the U. S. Military Prison, Fort Leavenworth, Kansas, revoked, and ordered to Fort Clark, Texas, for duty.

ROBBINS, C. P., First Lieutenant and Assistant Surgeon. Left Madison Barracks, New York, on ten days' leave of absence.

SWEAZEY, V. E., First Lieutenant and Assistant Surgeon. Left Army General Hospital, Washington Barracks, D. C., on leave of absence to include July 1, 1906.

The following named assistant surgeons have been ordered to report in person, June 25, 1906, to Lieutenant Colonel George H. Torney, deputy surgeon general, president of the examining board, Army General Hospital, Presidio of San Francisco, Cal., for examination to determine their fitness for promotion:

Captains I. W. Rand, L. A. Fuller, and George A. Skinner.

The following named assistant surgeons have been ordered to report in person, June 25 and 26, 1906, to Major William H. Arthur, surgeon, president of the examining board, Army Medical Museum Building, Washington, D. C., for examination to determine their fitness for promotion: Captains Carl R. Darnall, Basil H. Dutcher, P. C. Fauntleroy, John H. Stone, and James S. Wilson.

Navy Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the week ending June 16, 1906:

ABEKEN, F. G., Assistant Surgeon. Ordered to the Naval Recruiting Station, St. Louis.

CARPENTER, D. N., Surgeon. Detached from duty in command of the Naval Hospital, Puget Sound, Washington, and ordered to the Asiatic Station, sailing from Seattle on July 6, 1906.

CURTIS, E. E., Acting Assistant Surgeon. Detached from the *Franklin* and ordered to duty at Camp Harrington Rifle Range, Williamsburg, Va.

DECKER, C. J., Surgeon. Detached from the *Alabama* and ordered home to await orders.

DE VALIN, C. M., Surgeon. Detached from the Naval Recruiting Station, Baltimore, Md., and ordered to the *Alabama*.

DRAKE, N. H., Medical Inspector. Detached from the Naval Academy and ordered to the Naval Hospital, New York, N. Y., for treatment.

JENNESS, B. F., Assistant Surgeon. Detached from the Naval Medical School, June 15th, and ordered to the *Constellation* and to additional duty at the Naval Training Station, Newport, R. I.

LANGHORNE, C. D., Surgeon. Detached from the Naval Medical School and ordered to the Naval Academy for temporary duty, and thence home to await orders.

MARSTELLER, E. H., Surgeon. Detached from the Naval Recruiting Station, St. Louis, and ordered to the Naval Recruiting Station, Baltimore, Md.

MCGUIGAN, J. H., Pharmacist. Detached from the Naval Dispensary, New York, N. Y., and ordered to the Marine Barracks, New York, N. Y.

McMAHON, J., Pharmacist. Detached from the Marine Barracks, New York, N. Y., and ordered to the Naval Dispensary, New York, N. Y.

STEELE, J. M., Medical Inspector. Ordered to the Naval Academy.

Births, Marriages, and Deaths.

Married.

BECKER—SIDONS.—In Buffalo, N. Y., on Wednesday, June 6th, Dr. George Adam Becker and Miss Edith L. Siddons.

BLOOM—WENBAN.—In New Orleans, on Wednesday, May 30th, Dr. Jefferson Davis Bloom and Miss Mary Rose Wenban.

BURTENSHAW—HOLMAN.—In New York, on Saturday, June 9th, Dr. James Hawley Burtenshaw and Mrs. Susan Dewey Holman.

CURTAIN—MURRAY.—In Troy, N. Y., on Thursday, June 14th, Dr. William Curtain and Miss Veronica Murray.

DUFFEY—REEVES.—In Washington, D. C., on Monday, June 4th, Dr. Frank Jay Duffey and Miss Joan Reeves.

HUME—READ.—In Washington, D. C., on Saturday, June 2nd, Dr. Joseph Hume and Miss Mary Alston Read.

KOUWENHOVEN—ATLEE.—In Philadelphia, on Thursday, May 31st, Dr. John B. Kouwenhoven and Miss Grace Atlee.

MITCHELL—BENTLEY.—In New Brighton, Pennsylvania, on Tuesday, June 12th, Dr. Joseph Ernest Mitchell and Miss Helen Bentley.

POTTER—ALLER.—In Brooklyn, N. Y., on Tuesday, June 12th, Dr. Winifred L. Potter and Dr. Georgetta Platt Aller.

TODD—WALKER.—In Mount Washington, Maryland, on Monday, June 4th, Dr. William J. Todd and Miss Elizabeth Ashfield Walker.

Died.

ALDEN.—In Pasadena, California, on Friday, June 8th, Dr. Charles H. Alden, Brigadier General in the United States Army, aged seventy years.

BARSTOW.—In Portland, Maine, on Saturday, June 9th, Dr. Donald McLean Barstow, of New York, aged thirty-nine years.

BLANCHARD.—In Melrose, Massachusetts, on Monday, June 11th, Dr. Andrew H. Blanchard, aged eighty-three years.

CARRINGTON.—In Bristol, Connecticut, on Saturday, June 9th, Dr. Henry Austin Carrington, aged seventy-nine years.

DAY.—In Honolulu, Hawaii, on Friday, June 1st, Dr. Francis Root Day.

DEICHMAN.—In Bristol, Connecticut, on Wednesday, June 6th, Dr. Frederick W. Deichman, aged fifty-nine years.

DRAPER.—In Syracuse, N. Y., on Thursday, June 7th, Dr. George W. Draper, aged seventy-three years.

EASTGATE.—In Ellenville, N. Y., on Saturday, June 9th, Dr. J. F. S. Eastgate, aged forty-nine years.

GIFFORD.—In Hamilton, N. Y., on Monday, June 11th, Dr. Gilbert L. Gifford.

HARDAWAY.—In Blackstone, Virginia, on Thursday, June 7th, Dr. Daniel H. Hardaway, aged sixty-seven years.

HEXALL.—In Providence Forge, Virginia, on Friday, June 8th, Dr. Harry Hexall.

JACOBI.—In New York, on Sunday, June 10th, Dr. Mary Putnam Jacobi, aged sixty-four years.

JEWETT.—In Watseka, Illinois, on Monday, June 4th, Dr. Daniel Lee Jewett.

JONES.—In Utica, N. Y., on Monday, June 11th, Dr. Edwin T. Jones, of Queens, Long Island, aged fifty-six years.

LOWE.—In New Orleans, on Tuesday, June 5th, Dr. Morgan M. Lowe, aged fifty years.

NEELY.—In Chicago, on Tuesday, June 5th, Dr. Isaac M. Neely, aged eighty years.

NEWTON.—In La Crosse, Wisconsin, on Tuesday, June 5th, Dr. A. B. Newton.

SHAW.—In Philadelphia, on Wednesday, June 13th, Dr. Alexander R. Shaw, aged seventy-one years.

STARK.—In Rockford, Illinois, on Sunday, June 10th, Dr. Charles Victor Stark, aged fifty-three years.

THURSBY.—In Brooklyn, N. Y., on Monday, June 11th, Dr. Henry A. Thurstby, aged twenty-four years.

WILLARD.—In Chicago, on Saturday, June 9th, Dr. George E. Willard, aged fifty-one years.

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Original Communications.

AN INTERESTING CASE OF PERNICIOUS ANÆMIA.

By JOHN V. SHOEMAKER, M. D., LL. D.,
PHILADELPHIA.

CASE.—B. G., thirty years of age; German. Was admitted to the Medico-Chirurgical Hospital on October 25, 1905, by request of Dr. Crandall, of Blossburg, Pa. At this time the patient had great weakness, malaise, and dyspnœa. On exertion he had attacks of giddiness, and things became dark before his eyes. If he walked upstairs or up an inclined plane he felt his heart "jumping" in his breast so much that it caused him to cough. At times he had a sense of feeling go over his entire body as though every tissue of his body was rapidly getting larger and heavier. Two weeks previous he had a severe attack of dyspnœa, and following it expectorated bloody mucus. Epistaxis was frequent.

Physical Signs on Admission.—Shows a male, five feet eight inches tall, weighing 148 pounds; muscles are soft and flabby; complexion is light, and the hair is falling so much so that he has beginning alopecia. Eyes respond both to the light and distance, the conjunctivæ are markedly jaundiced. Nose is normal, except that the mucous membrane is very pale. Mouth: Mucous membrane very anæmic, teeth in good condition, and the tongue slightly coated and fissured on the posterior surface. Ears are normal, patient can hear a watch tick thirty-five inches from the ear. The skin has a lemon yellow color, and upon the body and legs are many dark pigmented spots, the result of an eruption which came out as vesicles, ruptured, followed by incrustation. Before rupturing they were painful and very itchy. The skin over the forehead shows slight bronzing. Glands are normal. Chest is well developed, respiration full and regular, and twenty per minute. Lungs: Inspection reveals nothing abnormal; palpation shows equal and full expansion of both lungs; percussion gives a good resonant note, and auscultation soft and full vesicular breathing. Heart: On inspection the apex beat can be seen but slightly in the sixth interspace in the nipple line. Palpation confirms inspection. Percussion reveals a normal præcordial space. Auscultation: The heart sounds are diffuse over almost the entire chest and slightly accentuated. A hæmic murmur is heard along the sternum from the third rib to the fourth interspace. Liver is slightly enlarged, as determined by palpation and percussion. It extends about an inch below the costal borders. Spleen is overlapped by the stomach, consequently its topography cannot be obtained accurately. Stomach percussion gives a tympanitic note from a point two inches below the xyphoid in the median line to a level of the umbilicus. On the left side the tympany extends to the anterior axillary line, and to the left of the median line to costal cartilage in the parasternal line. Accordingly, there is slight gastric dilatation with gastroptosis.

Family History.—Mother died of pulmonary tuberculosis at fifty-eight years of age, father is living and well, age seventy-two years. He has two brothers and four sisters, all of whom are in good health, excepting one brother, who has stomach trouble. He has no knowledge of his grandparents, but knows of one uncle who died of typhoid fever, and another one who died of blood poisoning following amputation of the leg.

Previous History.—He knows of no sickness until three years ago, when the present illness first began. He denies venereal history. He has been married for the past three years; has no children; his wife is living and in good health. Before his illness he smoked and chewed tobacco moderately. He drank alcoholic beverages, but not to excess. Occupation, coal miner.

Present Illness.—It dates back three years. Prior to his marriage he was apparently healthy and strong. He copulated excessively with his wife, nearly every night more than once, some nights as often as four or five times. This he kept up for over two months, and at the same time was working daily in the coal mines. He began to feel weak and unable to work with the same amount of strength and energy. In spite of his weakness he kept up regular intercourse, and states that finally after orgasm he was so exhausted that he was in a state of collapse. He says "everything before my eyes got dark and I was dizzy." However, in the meantime, he had a severe hæmorrhage from his hæmorrhoids, which afterward bled every time he went to stool. The bleeding condition of the hæmorrhoids continued for two weeks, at which time he sought medical advice and was obliged to discontinue his work out of sheer exhaustion. He was first compelled to leave his work in July, 1904, and was under medical treatment at his home until January 10, 1905, when he was first admitted as a patient in the Medico-Chirurgical Hospital under Professor James M. Anderson's care. The following is an accurate account of the laboratory findings of his blood and urine while a patient in the hospital at that time.

The treatment he received was as follows: January 13, 1905: Liq. potassii arsenitis, 3 minims after meals, increasing the dose one minim daily until he takes 10 minims three times a day.

January 18, 1905. Tr. nucis vomicæ. ℥x.
Acidi hydrochlorici dil., ℥x.

M. Sig. Before meals in a little water.

January 23, 1905: Colonic irrigation once daily.

February 6, 1905: Liq. potassii arsenitis was discontinued.

February 16, 1905: Liq. potassii arsenitis 5 minims three times a day, increasing it one minim until he takes ten minims three times a day. In the ten days the hæmoglobin dropped from fifty per cent. to forty-five per cent., consequently the Fowler's solution was immediately resorted to again.

Laboratory findings January 10, 1905: Uranalysis. Albumin, negative; sugar, negative; spec. grav., 1.026; reaction, acid; color, amber; odor, aromatic; in-

dican, decided reaction; heavy deposits of sodium urates.

January 10, 1905. Blood examination. Leucocytes, 4,400; red cells, 1,260,000; hæmoglobin, 25 per cent.

Stained specimen showed marked poikilocytosis, megalocytes were numerous; microcytes a few, polychromatophilic cells few, normoblasts a few, but no megaloblasts in the two smears made.

January 14, 1905. Leucocytes, 3,600; red cells, 1,700,000; hæmoglobin, 30 per cent.

January 17, 1905. Leucocytes, 4,400; red cells, 1,460,000; hæmoglobin, 33 per cent.

January 19, 1905. Differential count of white cells; polymorphonuclear, 72 per cent.; small lymphocytes, 18 per cent.; large lymphocytes, 3 per cent.; transitional leucocytes, 4 per cent.; myelocytes, 2 per cent.

January 19, 1905. Differential count of red cells, many megolocytes, microcytes, and poikilocytes, numerous polychromatophilic cells, only one normoblast found.

January 26, 1905. Leucocytes, 4,800; red cells, 1,640,000; hæmoglobin, 40 per cent.; color index, 1.21.

February 2, 1905. Leucocytes, 5,100; red cells, 1,800,000; hæmoglobin, 50 per cent. Stained specimen showed many megalocytes; decided poikilocytosis; numerous polychromatophilic cells; two normoblasts, but not any of the characteristic megaloblasts found on this examination.

February 7, 1905. Uranalysis. Albumin and sugar, negative; color, amber; odor, aromatic; spec. grav., 1.028; indican, marked reaction; reaction, acid.

February 9, 1905. Leucocytes, 6,800; red cells, 1,200,000; hæmoglobin, 50 per cent. At this time the liq. potassii arsenitis had been discontinued for ten days owing to the toxic effects. He had been taking 10 minims after each meal for over two weeks.

February 16, 1905. Leucocytes, 6,000; red cells, 1,220,000; hæmoglobin, 45 per cent. The liq. pot. arsenitis was given again, 5 minims, three times a day, and increased one minim until he took ten minims, three times daily.

February 24, 1905. Leucocytes, 4,600; red cells, 1,660,000; hæmoglobin, 52 per cent.

March 3, 1905. Leucocytes, 8,800; red cells, 2,660,000; hæmoglobin, 64 per cent.

March 9, 1905. Leucocytes, 6,400; red cells, 2,710,000; hæmoglobin, 70 per cent. Stained specimen, poikilocytosis less marked than formerly, corpuscles more uniform in size, otherwise nothing abnormal found in to-day's specimen.

March 10, 1905. Patient discharged from the hospital in a much improved condition.

October 25, 1905. Patient admitted suffering from a relapse of pernicious anæmia. For the first six weeks after his discharge from the hospital he enjoyed apparently good health. He was able to do light work without discomfort. But after he had regular intercourse again with his wife he soon found himself losing ground. Prostration and weakness became worse from time to time in spite of rest in bed and medicinal treatment. His present condition is as described before.

October 26, 1905. Uranalysis. Albumin and sugar, negative; spec. grav., 1.026; reaction, acid; color, amber; odor, aromatic; indican, decided reaction; sodium urates, many.

Blood examination. Leucocytes, 4,640; erythrocytes, 1,096,520; hæmoglobin, 26 per cent. Stained specimen showed marked poikilocytosis; megaloblasts, many; microcytes, few; normoblasts, two; polychromatophilic cells, few.

November 2, 1905. Blood examination. Leucocytes, 4,729; erythrocytes, 1,240,000; hæmoglobin, 23 per cent.

November 9, 1905. Blood examination. Leucocytes, 4,244; erythrocytes, 1,186,420; hæmoglobin, 20 per cent.

November 19, 1905. Blood examination. Leucocytes, 3,426; erythrocytes, 1,000,124; hæmoglobin, 20 per cent.

Uranalysis. Albumin and sugar, negative; spec. grav., 1.020; reaction, acid; color, amber; odor, aromatic; indican, positive reaction.

November 23, 1905. Blood examination. Leucocytes, 3,886; erythrocytes, 1,000,846; hæmoglobin, 22 per cent.

November 30, 1905. Blood examination. Leucocytes, 3,928; erythrocytes, 986,898; hæmoglobin, 20 per cent.

December 5, 1905. The patient's condition since his admission has been gradually getting worse. Professor Judson Daland being requested in consultation made me the following report:

"I enclose analysis of a specimen of urine and fæces of your patient, B. G., which will probably interest you. The moderate albuminuria is in all probability due to semistarvation and the breaking down of the tissues of the body; otherwise the uranalysis was negative. It is interesting to note that although the specific gravity was so low, the color was normal, which color should have been much lighter than normal. This suggests that an increased amount of pigment is being thrown off by the patient. The examination of the fæces was extremely disappointing, as frequent search failed to reveal the presence of parasites or eggs. I have been on the lookout, for many years, for a case of pernicious anæmia due to intestinal parasite, but thus far have been unsuccessful.

"The blood examination shows an extraordinary reduction in the number of red cells to 880,000 per c.mm., which is equivalent to 17 per cent., and as Fleischl's hæmometer shows but 15 per cent. of hæmoglobin, each red cell contains more or less than exactly its normal quota of hæmoglobin. In a certain proportion of cases of pernicious anæmia, as you well know, we expect to find each red cell to contain a larger percentage of blood pigment than is normally present. Some of the cells were so pale that it was evident that they contained less pigment than normal, and it is not at all improbable that other cells contain more than the normal amount and thus make up the average. There was marked poikilocytosis, and an occasional macrocyte and microcyte as well as nucleated red and shadow corpuscles—in a word the ordinary picture of an extreme terminal case of progressive pernicious anæmia.

"I was disappointed in the negative results of my findings and ventured to hope that the uranalysis would show intestinal toxæmia, which was not present. In view of this study, may it not be that there is a profound disturbance of the nutrition due to alterations in the peptic and acid glands of the stomach as well as of the intestines, with possible serious interference with the functions of other digestive glands, such as the salivary and the pancreatic? Peristalsis is also, in all probability, interfered with.

"In case the patient dies, it is exceedingly important that Professor McFarland make for you a scientific study of these organs at autopsy and the case should then go on record. It is possible that your patient is suffering from the rare form of pernicious anæmia due to atrophy of the gastric mucosa and containing glands, which cases are probably associated with a serious change in the intestinal mucosa. This latter point, so far as my knowledge goes, has not received the attention it deserves, as we well know that the clinical picture of pernicious anæmia may be absent, even though aepsia and achlohydria be present. I would therefore suggest a careful examination of the intestinal mucosa in order to settle this point.

"I trust that these suggestions will be of some value to you and thank you for giving me an opportunity of studying this case."

Blood examination. Macroscopical examination: Color, pale; consistence, watery; coagulability, almost

absent; flow from puncture, freely. Erythrocytes: Number per c.m., by the Thoma Sein hæmocytometer, 880,000, or 17 per cent. Hæmoglobin: By Fleischl's hæmometer, 15 per cent.; by Tallqvist's scale, 20 per cent. Color index, 0.85. Leucocytes: 4,200 per c.m. (at 4:10 p. m.). Microscopical examination (unstained): Red cells, color, paler than normal; shadow corpuscles present; macrocytes, occasional; microcytes, occasional; poikilocytes, marked. Microscopical examination (stained): Red cells take stain poorly; poikilocytosis is marked; only an occasional nucleated red cell found; leucocytes were apparently normal; polymorphonuclear leucocytes predominated.

Uranalysis. Albumin, with Heller's nitric acid, trace; glucose, with Fehling's solution, absent; acetone, moderate amount; indoxyl potassium sulphate (indican), absent; blood, absent; bile pigments, absent; sediment, absent; specific gravity, 1.012; reaction, acid; color, normal; appearance, cloudy (cleared by filtering); odor, normal; phosphates, absent.

Microscopical examination of the sediment. Casts, absent; cylindroids, absent; erythrocytes, absent; leucocytes, absent; bacteria, many; spores, few; epithelia, occasional squamous cell.

Fæces examination. Macroscopical examination: A small amount of yellowish pasty fæces, nothing recognizable; odor, normal; reaction, alkaline; occult blood test, very faint reaction; microscopical examination, very many bacteria, few leucocytes, occasional squamous epithelial cell, occasional fatty acid crystal, no parasites, nor ova.

The diagnosis of this patient's trouble is easy. From the symptoms, the physical signs, confirmed by the blood examination, the disease is one of progressive pernicious anæmia, which is characterized by a great destruction of the red corpuscles. The disease is slowly progressive from bad to worse, and usually ends in death with no pathological lesions other than those of the hæmatopoietic organs. Emaciation is rare. The subcutaneous fat in fact has a tendency to increase. The skin is of a lemon yellow color; the mucous membranes and organs are anæmic. At the autopsy the muscles and lymphatic system are usually found to be intensely red. The heart is large, flabby, and yellow in appearance, due to the fatty degeneration of its muscles. A striking pathological feature of pernicious anæmia is the large deposit of iron pigment, especially in the liver, also in the spleen, pancreas, kidneys, and other organs. The iron pigment found in these organs is undoubtedly due to the great destruction of the red corpuscles. The bone marrow is hypertrophied and stained red instead of yellow as in the normal condition. The serous membranes, such as the pleura, pericardium, endocardium, and dura mater often show punctiform hæmorrhage. Microscopical examination of the gastrointestinal mucosa reveals an atrophied condition of the glands; hyaline degeneration of the bloodvessels and sclerosis of the posterior columns.

The cause for the hæmolysis in this patient can rightly be attributed to the hæmorrhage from his hæmorrhoids and the great excess of sexual intercourse. Probably his surroundings were unhygienic, and the food insufficient to supply the nourishment required during this period of his life. Among the predisposing causes the unhygienic surroundings and the insufficient nourishment are two great factors.

In the treatment of pernicious anæmia it is very essential to give the patient the very best hygienic measures with plenty of fresh air and sunlight. The food should be light and nutritious, and given in small quantities at short intervals. It is well to keep the patient at absolute rest in bed, and employ light massage and salt water baths to keep the skin active and keep up the tone of the muscles.

Medicinally, arsenic is the drug employed and considered the very best in this disease. However, this patient received increasing doses of arsenic with little influence on the corpuscles as regards their increase in number. In fact, the patient became worse, the gastrointestinal canal would not tolerate even the smallest dose of arsenic in any form. He had been on liquor potassii arsenitis for over six months previously, and made a fairly good recovery, the hæmoglobin being seventy-two per cent. and the red corpuscles 2,745,620 per c.mm.

The medicinal treatment he received while under my care until the 11th of December, 1905, was as follows: October 26, 1905. Colonic irrigation once daily.

R Arseni trioxidi, gr. $\frac{3}{4}$;
Mangani dioxidi præcipitati, 3ss;
Phenylis salicylatis, 3i;
Misce, fiat capsulæ, No. xx.
Signa: One capsule four times daily.

After a time he was given acidi hydrochlorici dilute $\mathfrak{m}\times$, after each meal, in a little water. His diet was plain, nutritious, and easily digestible.

His condition gradually became worse and the erythrocytes decreased in number as shown by the blood examinations. On December 11, 1905, when he was thought to be slowly dying by all of the physicians who saw him, I discontinued all medication and diet, except freshly expressed beef juice, four teaspoonfuls every two hours. At the end of two days, to the surprise of every one who saw him, he was much improved. He was kept on this simple treatment for three weeks, when he was allowed to have milk and soft diet, also the five to ten minims of dilute hydrochloric acid after meals. He improved so rapidly, and regained strength that he was able to leave the hospital on the 30th of January, 1906, his hæmoglobin being 73 per cent, erythrocytes 3,642,784, and leucocytes 4,788.

1519 WALNUT STREET.

A PLEA FOR MORE CATHOLIC AND BROADER VIEWS IN OPHTHAL- MOLOGY.*

By E. N. S. RINGUEBERG, M. D.,
LOCKPORT, N. Y.

Articles have appeared from time to time calling attention to the tendency on the part of some specialists to exaggerate the importance, scope, and results obtained in the line of their special province, most of the criticism being directed at ophthalmologists.

Undoubtedly there is an element of truth in these assertions. Due in part to the fact that many allow themselves to get into certain grooves of thought without looking beyond; but also in part due to the fact that we as specialists do not and cannot come into such close relationship with our patients, except in few cases, and cannot keep in touch with them

* Read before the Buffalo Ophthalmological Club, February 8, 1906.

to the extent possible in the case of the general practitioner.

We lose sight of many cases after seeing them once, even in spite of explicit injunctions for them to return and report as to result. Often for the reason that having obtained the relief sought for, they fail to see the necessity of so doing; especially as the great majority live at a distance, and it would entail some inconvenience or loss of time to comply. Others who may not have obtained the relief expected, drift off to some other specialist, not realizing that the time spent in the study of the case in the first instance will help to form a better foundation for a more perfect diagnosis if further opportunity for an examination be given. For of necessity, other things being equal, the one who has already given some time to a case is better qualified to get a clear view of its status in a given individual, than another who has the whole ground to go over again.

Or they, at times, think that all that has been possible has been done for them in that line, and go back to some general practitioner again. The natural tendency is to look upon such cases which do not return as among those which have been properly treated with good results, until in a few instances we accidentally hear at a later period that the results have not been satisfactory. This state of affairs is probably more true of refraction cases than any other class, for self evident reasons, principally because the public at large has been educated up to wrong ideals by opticians, refraction specialists, and others of that ilk.

But the trouble is often with ourselves in allowing an over specialization to take place, and in not taking as broad and comprehensive a view of the cases which come before us, as should be done.

Many years ago when a student of the natural sciences, long before taking up the study of medicine, I found myself commencing to specialize by a process of elimination—as we all must do in this day and generation if we wish to succeed. After a few years it seemed to me to be a cause of regret that so much time had apparently been lost in a variety of directions. But fortunately a few incidents occurred before proceeding very far, which made me realize very forcibly that the time which had been so occupied was very valuable to me in many ways. My thoughts having once been turned in that direction, I came to appreciate more and more the disadvantages as well as the advantages of specialization.

The tree of knowledge has branched in so many diverging directions, the different limbs have borne such a bewildering multitude of leaves, and blossomed forth in such diversified variety of flowers, many of them maturing into fruits of knowledge and usefulness, that we now are compelled to take note of a part; no longer can our vision take in the perfect whole. We are compelled to specialize perforce whether we wish to or not, if we desire to become useful members of society. A single mind can now no longer have so complete a grasp of the recorded observations of mankind as in the days of Linnæus or Cuvier. Time and the limitations of capacity of the human brain forbid.

While this is so, still even though we may not be able to absorb all knowledge, everyone should try

to have as broad a grasp of the fundamental principles underlying the things, which either directly or indirectly may have a bearing upon that branch of knowledge which he has chosen to follow into all of its complex ramifications.

The greater danger in specialization lies in the fact that many get to traveling in one rut so long, that in time it is worn so deep that they are no longer able to look out over the sides of it, no longer can they take that broad, free, dispassionate view of things in general which helps us so much so far as ultimate success is concerned.

When I speak of success I do not mean that mediocrity which may spell financial success, nor that which may lead to the successful development of some one or two facts which may or may not have been known before, but that broader success which comes to him who is able, while evolving some new, or perfecting some old facts, yet finds himself capable of recognizing their correlation to other demonstrated facts, and can then successfully weld them to their proper place in relation to others, so as to help to form that perfect whole towards which we all should strive. But we see many instances where much valuable time is lost by those who should be fitted for greater things, who spend their energies, which ought to be devoted to further progress, in upholding their claims to priority, etc.

Turning to our own calling, we find specialization within our specialty. We have our tenotomists and our refractionists, as probably the most extreme examples of overspecialization, and in those as in all others we find a strong and growing tendency to claim too much, and that upon too slight grounds.

Thus giving rise to such comments as one writer who, while asserting that (1): "The obscure dyspepsias, the unrelieved headaches, the unclassified neurasthenias, the puzzling nasal reflexes, the perplexing dental symptoms, are often and only too often due to ocular conditions unrecognized by the general practitioner, not by any means through any lack of ability upon his part, but simply because the immense demands upon his attention to keep abreast of the time in his own department, forbids him becoming familiar with conditions of the eye which are naturally a routine matter to the ophthalmologist." Still, he then goes on to say that "Far be it from me to assert, as many of my specialty have done who have brought nothing but ridicule upon us for the ground they have taken, that all the ills that flesh is heir to can be traced to the door of eye strain, but let us rather admit that there are at least two or three conditions that cannot be diagnosed by a peep through the windows of the soul, and, recognizing our limitations, endeavor to perfect ourselves in a field which to my mind has its definite boundaries."

Another in an article speaking of some oculists and their reported cures of epilepsy and paresis, assures us that (2): Cures are recorded of melancholia, chorea, neurasthenia, and other nervous diseases by the selfsame simple remedy, i. e., correction of refractive errors; further, that ametropia or eye strain due to other ocular defects has been declared to be the cause of sinusitis frontalis, migraine, dyspepsia, bilious attacks, denutrition, spinal curvature, insomnia, despondency, psychic disorders, truancy, immorality, etc. Even undoubtedly severe organic

diseases have been reported cured by this charmingly simple remedy. Consumptives who were visibly wasting away, whose lungs were already affected by the most tenacious and destructive of pathogenic germs, have been restored to blooming health after the detection and correction of refraction errors. Can the devotees of any other specialty than ophthalmology boast of curing so many and such severe diseases as those mentioned, and by like simple means? And further on he states that: "It is difficult to ascertain whether ophthalmologists are skeptical of such reports. For one never reads an article by an ophthalmologist refuting them." And then he approvingly quotes Dr. Charles L. Dana to the effect that "Perhaps after all the most real psychosis connected with eye strain is that shown by a group of enthusiastic oculists who have become obsessed with the idea that eye strain forms the background of most pathological conditions," "With due respect also to my learned colleagues I should suggest that 'glassing' had become something of, at any rate, a minor psychosis."

These statements, and more of the same tenor, represent the extreme revulsion against what the author calls "astigmatophobes or error of refraction phobes," and, while it may be salutary to have a rebellion of one extreme against the other, still it does not give a correct idea of the true merits of the case, which can only be obtained by accepting such facts as have been absolutely proved, when we will arrive at the true solution. The complex phases of the innumerable reflexes of the sympathetic nervous system are puzzling at best, and we can only arrive at an approximately true solution by analyzing all of the possible factors, and carefully weighing their relative value when regarded as possible causes to produce a given effect.

We know ocular strain or irritation alone is capable of producing headaches, nausea, vertigo, and a vast number of other reflex disturbances, but at the same time we must not forget that the same can be proved by the gynæcologist, laryngologist, rhinologist, otologist, etc., as being caused by reflexes having a starting point to be found in their especial fields.

The question is not whether we can achieve a given result by a certain method, but which is the method or combination of methods that will give the best, most enduring, and permanent result. If we find an immediate cause we should not be content with that, and simply try to remove that alone; let us first by careful study find out if possible some preceding or correlated causative factor, or chain of causes leading up to the final one. In hunting down some obscure sympathetic reflex to its ultimate cause or end, we may liken it to a game of chess where we can often call check, though it may be some time and quite removed in position before we can finally say checkmate.

We may get a temporary relief by an injudicious tenotomy—I say injudicious, because judged by the final results as we all have sometimes seen them that has sometimes proved to be the case. We have all had these cases come to us where we have been compelled to replace a muscle which should have remained where it was in the first place, and finally get relief by getting at the true causative factor of the case. Take for instance some of those cases of

insufficiency of the recti muscles. The cause is not always, or even often, in a shortening of one of the muscles or superfluous length in the other. It may be simply a spasmodic contraction of one of the muscles, and the source of the causative irritation may as well be extraocular or intraocular. We sometimes see cases where the want of balance is caused by a rhinitis through transmission of the irritation by contiguity of structure. I have one case in mind where a slight application of adrenalin near the opening of the frontal sinus will cause all symptoms to disappear in a few hours, not to return if followed by appropriate local treatment of the nasal passages. In this case the catarrhal condition was so slight as to have been overlooked for quite a period of time.

The training of the oculist and daily experience with the majority of cases that comes before him of necessity make this the most difficult part of his work. The selecting out from the great mass of material which comes to him, much of it ready diagnosed, because everything else had presumably been tried, and found wanting, makes this so. But we do find a certain proportion in which some extraocular factor has been overlooked. And these are the very ones we are apt to fail on, the cases which after a time come back and report no relief or oftentimes drift off to some one else. Specialization in its true and broader sense does not necessarily mean that we must become a refraction crank, a tenotomy crank, or any other kind of crank with one idea, but we should have a breadth of education and training, and clear perception, from a sound standpoint, as wide and broad as possible, and do justice to our special line of work without wasting our energies in nonutilitarian channels. It is right here that the nicest kind of discrimination is called for in the education of ourselves. After all, our education is largely a matter of self education. For no matter how able the teachers we labor under, the careful guidance of our course must of necessity lie largely in our own hands. We should so shape our path as to avoid the dangers of the narrow channel of over specialization on the one hand, or the drifting out too far into the broad sea of knowledge on the other, where we would become lost in its vast expanse and dissipate our efforts in fruitless endeavor.

We should all unite in striving to maintain that high standard of achievement which has been made possible by the long years of patient research and careful study of those who have been the true leaders among us, and should try to make no decided advance without the sound ground of demonstrated scientific facts under our feet.

We may speculate and theorize in our attempts to get at the solution of some unknown cause, but let us not in some vainglorious moments advance such speculations and theories as proved facts, and so lay ourselves open, through egotism and an attempt at a play to the galleries, to the ridicule of others.

A high degree of success can only be had in striving to attain the happy mean between the two extremes. Now, I do not wish to be understood as undervaluing the good done by those whom I have been pleased to denominate as cranks, for while we may not consider them as representing the highest degree of mentality attainable, we must confess that

they do a vast deal of good, for by their very extreme position they accentuate all the points under consideration, and thus we can the more carefully weigh the advantages and disadvantages, the truths and the fallacies, in the particular line of thought for which they are contending. The advocate of some pet theory or new idea, and more especially one who discovers, or imagines he has discovered one, is very apt to give it undue prominence, as over others bearing upon the same question, and is more than likely to overlook their relative merits.

We who represent what is probably one of the highest and most perfectly developed branches, as yet, of medical science, should especially be alive to and guard against narrowness of view, for the reason that being so situated, we are in a position to make us all the more liable to fall into such an error.

Possibly one of the reasons why our oculists are at times prone to claim overmuch, lies in the natural tendency of all to fight for unrecognized, overlooked or slighted truths. This point of view is well presented by a recent writer, who, in the introductory paragraph of an article on Disorders from Eye-strain, says (3): "Notwithstanding that much has been presented on this subject, it is a lamentable fact that a large percentage of the medical profession fail to appreciate the nature and consequences of eye strain. Thousands of patients are annually being subjected to a medical treatment of reflex disorders, arising from eye strain, while the ætiological ocular defect remains unappreciated by both the patient and his attending physician. Fortunately, this state of affairs does not obtain throughout the profession. Scattered here and there, like oases in a desert, are physicians who, having personally suffered (like the writer) from the torture of ocular defects, or intelligently observed them among their clientele, are appreciative of their significance and rational treatment. When it is learned on investigation, however, that a large majority of textbooks and monographs on internal and nervous disorders are silent as to the importance of eye strain in the production of certain neurogastric diseases, it is small wonder that the ætiological ocular defect is so often unappreciated by the general practitioner in the treatment of these disorders." These assertions are illustrated by a series of ten cases of ordinary types, such as we see from day to day in our routine work; and, as he himself remarks, "are not rare in occurrence, nor are the reported favorable results of ocular treatment exceptional."

What has been stated has simply been a statement of self evident facts, truisms, which mostly have been worn threadbare by restatement from time to time: "Familiarity breeds contempt," and the dangers which we know are often overlooked because we are apt to think that the mere knowledge of them is a sufficient safeguard. For that reason this repetition and summing up of the situation as it stands at present may be considered allowable.

One of the things that should never be lost sight of are personal idiosyncrasies, which we run up against frequently enough, that naturally it should always put us on our guard. One swallow does not make a summer, neither does one, two, or more individuals who are hypersensitive to an error of $+ .25$ D. make a rule that all of necessity be so; for on the other hand, we often come across patients

with an undoubted error of refraction but who reject its correction, either in its entirety or in part. Just why, we cannot always determine. Some of these cases of rejection of manifest errors of refraction we can in all probability ascribe to years of adaption to a certain environment until it has become a second nature, *consuetudo secunda natura est*. Then when we come along and attempt to correct that, we find ourselves confronted by a problem which will not yield to definite rules; for exceptionally these cases had better be left where we find them, while the majority will give better results by partial correction, and some we can gradually educate back to a normal standard. The trouble very often lies in the fact that we cannot give individual cases time and protracted study enough; and if we could, very few of our patients are willing to pay for the time so spent. They, as a rule, want to see immediate results, and we, as a rule, like to receive the immediate returns.

We may, and often do, build up an ideal being, as nearly perfect and emetropic in detail of all of its parts as we can conceive, made up like the Venus of Milo of such standards of perfection as he who created that ideal moulded from a multitude of individuals, but some mistakenly proceed to make up from such an ideal rigid standards and rules of form and function, to which they expect each individual to conform, and failing in that, they then seem to consider it their duty to employ all possible means, mechanical, surgical or otherwise, to bring it to that measure and standard. Then they wonder why Nature at times seems to fail to appreciate their efforts and be truly thankful instead of continuing to balk and show very distinctly by signs, objective as well as subjective, that there is still something wrong.

The patient is then often told that it is not the oculist that is at fault; that cannot be for a moment considered, but that it is he himself who has not tried hard enough to adapt himself to his new and strange environments. They forget that asymmetry in one part may have correlated asymmetry in other parts, and that, while one may be susceptible of correction, the other may not, also that the relation of that which can be corrected may be closely allied to the other which cannot; that it will not do to disturb that relationship too far in efforts to bring it up to the standard of the ideal being, of their creation, not Nature's.

Rigidity and inflexibility of rule in the consideration of deviations from the ideal normal standard as we see it, exactness of dosage and arbitrarily fixed lines of treatment have no place in the armamentarium of the truly successful practitioner, except as guides which are his servants, not he theirs, to be adapted to the needs as he finds them in each individual case.

He who attempts to fit all of his patients to a Procrustean bed, manufactured out of material furnished by fossilized, cut and dried rules will find the results often as disastrous to his patients as was the case with those other victims of the robber chieftain of old.

Since the foregoing was written there has come to hand the January number of *Ophthalmology*, with an article by one of our members, Dr. Howe,⁴ where we find voiced a plea for more rationalism in

the drawing of deductions from too limited data. "Concerning a very large number of changes in the eye, or symptoms in different parts of the body, the more careful ophthalmologists simply say that they are not yet ready to express an opinion as to whether these are, or are not, the result of eye strain. They look with interest for painstaking investigation and for a calm, impersonal statement of the results, no matter by whom they are given or what they may be. But while most of us are thus restrained by the desire to accept only what is really proved, on the other hand we find occasional practitioners of ophthalmology, especially in America, who are ready to assert, in offhand fashion, that a host of organic changes in the eye or elsewhere, and all sorts of symptoms, are more or less directly the result of eye strain. Now, with a question of this sort, the experience of any one individual is of comparatively little value."

References.

1. Clarence Payne Franklin. The Recognition of Eye Strain by the General Practitioner, *New York Medical Journal*, December 30, 1905, p. 1374.
2. Max Talmey. Reflections Concerning Pretended Therapeutic Successes Obtained by Some Practitioners of the Ophthalmological Specialty, *New York Medical Journal*, December 2, 1905, p. 1165.
3. Ovidus Arthur Griffin. Disorders from Eye Strain. *Journal of the American Medical Association*, January 6, 1906, p. 32.
4. Lucien Howe. What are the So Called Reflexes Which Can Properly be Referred to Eye Strain? *Ophthalmology*, ii, p. 203.

FEVER IN CHILDBED DUE TO OTHER CAUSES THAN SEPSIS.*

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Any one who is doing obstetrical work has undoubtedly been made anxious at some time or other during the puerperal week by finding the patient in fever, and immediately had the thought of the *bête noir* of the obstetrician, sepsis, come up to his mind. The patient is thereupon questioned as to pain, chills, headache, or sudden cessation of lochia, and carefully examined for the other symptoms of the suspected condition; that is for thready, feeble, and unproportionately rapid pulse, the characteristic anxious expression; flabby and soft uterus; tenderness and resistance in inguinal regions; tympanitis; offensive lochia. If any of the above symptoms are found, an internal examination is made to ascertain whether the os is wide open, and whether there is an exudation in the cul de sacs. And it is only when the result of a most careful and exhaustive examination is negative, and only then, may we look for other causes of fever in childbed than sepsis.

It is true that labor is a physiological act. But taking into consideration the irritable and unstable condition of the nervous system of most of our women, the ordeal and traumatism of labor, and the fact that the thermal or body heat centre is under the influence of the reflex and emotional excitement, is it at all surprising that the temperature of a parturient woman often goes up above normal on the slightest provocation? While the temperature in an uneventful puerperium is often subnormal during the first few days after labor, so frequently is there

an elevation of temperature in childbed, that an average temperature of 100.4° F. is considered normal by most of the American and English authorities. The French and German put it 38° C., or a little over. In Germany, for instance, where most of the obstetric work is done by midwives, the law says that as long as the fever is below 38.5° C. the midwife is not compelled to report the case to the district physician. Apropos this law, it seems to us that it is too narrow, and not safe, as the importance lies, not in the height of the fever, but in its duration, and the coexistence of other symptoms.

It is a generally accepted idea that hospital patients run a higher temperature than private patients. This does not offer itself easily to an explanation. Some think that it is due to a mild degree of sepsis caused by segregation of many patients. But it has been repeatedly proved that since the real nature of puerperal fever has been understood, hospitals, in spite of the disadvantage from this concentration, and the frequent and numerous examinations necessary in institutions used for clinical instruction, have, owing to the great care and constant vigilance of the physicians and nurses, decidedly less cases of sepsis than the private practitioners, among whom, however, death due to sepsis is not always reported as such. Others claim again that it is due to excitement accompanying the hospital régime, anxiety, homesickness, and so forth. But are most of our private patients better shielded from excitement? May not the careful, systematic, and frequent taking of temperature, practised in the hospitals, and not, as a rule, in private practice, account for the discrepancy in the temperature? Dr. Baum,¹ of Berlin, studied the comparative temperature of hospital and private patients, and found the average temperature curve to be the same in both.

The elevation of temperature in the first twenty-four hours is so frequent that it is often considered physiological. The cause of this rise is not known, though some explain it by the change in circulation. As a general thing it seems that either first labor, or prolonged, dry or instrumental labor, labor followed by lacerations, labor that occurs very early in the day, and last, but not least, labor where many internal examinations have been made, are all apt to be followed by a comparatively higher temperature.

Let us now see what are the causes of this non-septic fever. They may be of psychical or physical origin. The psychical cause is any strong emotion, either from joy, fear, grief, fright, annoyance, many visitors, and so forth. Cases of fever from no other cause than some strong emotion, when the ordinary prescription of bromide sets everything to right, have been met with by all of us. Dr. J. L. Lackie² speaks of a very nervous woman who, after a perfectly normal labor, developed a fever which reached 105° F. on the fifth day. A careful local examination was negative; a consultation was held, the findings were confirmed, and the only cause for the fever seemed to be her continual anxiety. The treatment decided upon was a good scolding. It worked wonders, as in a few hours the temperature became normal and remained so. That the treatment of fever of psychical origin is mainly prophylactic is

¹ Dr. Baum. *Zeitschrift für medizinische Beamte*. Berlin, xvi, pp. 261-271.
² Dr. J. L. Lackie. *Edinburgh Medical Journal*, new series, vi, pp. 140-146, 1903.

* Read before the Woman's Medical Association of New York.

self evident, and the time honored tradition of shielding a lying-in woman from mental excitement, as well as from physical harm, has undoubtedly its *raison d'être*.

Of the physical causes the intestinal disturbance, chiefly constipation, is the most common. The fever here is due to autointoxication from absorption as well as to reflex irritation from discomfort and distension. Constipation, which is of frequent occurrence with many women is, as a rule, aggravated during the latter part of pregnancy, and adding to it the semiparetic condition of the bowels, the recumbent position of the patient, the increased loss of fluids through the kidneys, skin, and through the flow of lochia, the relaxed condition of the abdominal walls, and the diminished intraabdominal pressure, all following labor, we have the circumstances favoring fecal accumulation. Once in a while there will be several liquid but dark and foetid stools, which condition is only a different symptom of constipation. The preventative treatment of fever due to constipation must be begun months before labor. Whether we succeed by means of proper diet and hygiene only, or must resort to a mild laxative, in either case a little calomel and soda given occasionally during the last months of pregnancy, will help matters along by relieving the overworked liver. Incidentally it is also one of the ways of preventing uræmic complications. Judging from the old custom of taking a dose of oil at the end of pregnancy, we can see that the importance of the condition of the bowels was always appreciated. The next thing is the laxative to be taken on the third day, of which the nurse or patient herself is sure to remind us. Over feeding or improper feeding will often send the temperature up. The fever will also occasionally go up on account of the peristaltic movement, caused by medicine or the discomfort of a hard stool. The fever due to intestinal disturbances is, as a rule, of short duration, and is more apt to occur in the second half of the week. Some very troublesome cases of constipation have, however, been reported. Budin³ mentions a case where it caused death. The fever due to autointoxication is occasionally obstinate and persists in spite of the administration of laxatives. If sepsis and other complications can be positively excluded, the urine should be examined for indican, and if it is detected in large quantities, the fever is most certainly of intestinal origin.

The various disturbances of the mammary glands are frequently the cause of this nonseptic fever. Some authorities altogether deny the existence of milk fever, claiming that the secretion of milk is a physiological function and its establishment must not be accompanied by fever. Its significance has undoubtedly been very much overestimated, and most fortunately for the patient, the times are past when any febrile disturbance in childbed was always milk fever. But be it physiological or pathological, we occasionally do find that the reflex irritation due to over distention of the breast, will cause fever, which seldom, however, lasts more than twenty-four hours. Pain from cracked nipples, and later in the week lymphangitis, and pus formation, have a like effect upon the temperature. We will not dwell upon the

details of prophylaxis, such as the care of the nipples before and after labor, the care of the breast and baby's mouth, and the necessity of early, but not too frequent, nursing soon after labor. Sometimes in spite of all, nipples will crack, and lymphangitis, and mammary abscesses will form, each condition calling for treatment of its own.

Nonseptic fever is often also due to the absorption from the wounds of the genital tract. A woman, even after a normal labor is, to a certain extent, a surgical patient on account of the contusions, lacerations, abrasions, all bathed in the highly putrescible lochia. It is not so much during the healing of the extensive lacerations, all of which, except those of the cervix, we will take it for granted, are repaired and looked after, but it is during the healing process of the small tears, that sloughing and absorption takes place. Strictly speaking, this as well as any inflammatory process of the mammary glands, is due to infection, but as it is only of a limited extent it is generally considered nonseptic in comparison with puerperal sepsis. The treatment here is thorough cleanliness.

This brings us to the subject of vaginal douches. It is now almost a universally accepted idea that in ordinary cases there is no need of vaginal douches, and that the indiscriminate use of douches has been, and perhaps still is, responsible for many cases of sepsis, is an axiom. I personally knew a midwife, may her soul rest in peace, who carried a fountain syringe in her far from aseptic bag, and syringed all her patients with it, irrespective of their condition, not even dreaming of such a thing as boiling her implements. This, of course, is the extreme, but even with as fairly careful asepsis and antisepsis, as is seen in daily practice, there is a good deal of danger and risk in using the vaginal douche. For in the first place, a vaginal douche during the first days after labor is, owing to the patency of the os, a uterine douche, and then any breach of the principles of asepsis has much more formidable consequences than if the irrigation were limited to the vagina. In the second place, the stream of water washing off the clots from the numerous small lacerations retards their healing, thus facilitating infection.

On the other hand, the patient's toilet should be thorough, and the care of the small wounds around the vulva and perineum should not be left altogether to the nurse, but daily looked at with good light and touched with a strong solution of carbolic acid whenever the healing is slow; the pubic hair should be clipped after labor, if it was not done before. The next important thing in this connection is to help the flow of lochia by having the patient change her position frequently during the day, and occasionally rest with her face downward. If there were no stitches, no pronounced general weakness, or no fear of hæmorrhage, there is no reason why the patient should not be allowed to sit up in bed to urinate after the third day.

Still another cause of fever after labor is retention of urine. This retention is brought about by one or more of the following conditions: The increased secretion of urine; the relaxed condition of the abdominal walls; the diminished intraabdominal pressure; the great sensibility of the urethra and partial paralysis of the sphincter muscle, both

³ *Revue de clinique et de thérapeutique.*
1893, 1, 177-1904.

caused by the more or less prolonged pressure of the head, and at last the inability of some patients to pass urine in a recumbent position. This condition of the bladder, which may be regarded as atonic, usually disappears within the first twelve hours; quite frequently, however, it will persist for a longer time and occasionally the bladder becomes distended to a degree of discomfort, and the temperature may go up as a result of reflex irritation caused by it. Dr. Lackie speaks of a patient who had a very high temperature and even delirium, from no other cause than retention of urine. The peculiar feature of his case was that there had been some urine passed at intervals, but there was not the constant dribbling characteristic of retention. As we see, no reliance can be placed upon the fact that urine had been passed repeatedly, as it is possible that a patient with an overdistended bladder will void some urine now and then, without relieving the retention; therefore if retention of urine is at all suspected as the cause of fever, the abdomen must be carefully palpated while the patient has her thighs flexed. In case of retention we will find a large swelling extending to the umbilicus or higher, either masking the fundus uteri altogether or pushing it to one side, mostly the left.

Fever from retention is, however, of rare occurrence, and we must not be too prone to use the catheter. The use of the catheter, even if practised under the most antiseptic precautions, and not passed under the patient's clothing, a method which surprisingly is still sometimes employed, is always accompanied by a certain amount of risk of carrying up infection, as the microorganisms are often found within the meatus and the lower part of the urethra, thus rendering it really impossible to make catheterization a sterile procedure. Furthermore, the catheter, if used once, as a rule has to be used again and again, as the bladder, or rather the nervous mechanism of the bladder, is one of the most sensitive in the body, and is very easily deranged, while the danger of carrying up infection, on the other hand, increases with the advancement of the puerperium, owing to change in character of the discharge. In the majority of cases, if the patient is raised in bed, or allowed to sit up, provided there are no stitches, and the procedure is not otherwise contraindicated, or if some of the simple remedies, like turning on the water, pouring water over the parts, putting a hot cloth over the pubic region, or, what is still better, giving an enema, are tried the desired result will be obtained. A hand or a pad firmly laid over the hypogastrium may also help matters along by supplying the diminished intra-abdominal pressure. In short everything should be tried again and again before we resort to a catheter. It is inadvisable and almost impossible to lay down any hard rules as to the length of time one should wait for the voluntary passing of urine, as it depends upon the capacity of the bladder, and upon the excitability of the individual. The writer had a patient recently where, in spite of all the measures employed, there was no result for twenty-four hours, but, as there was very little discomfort, it seemed safe to wait, and after several attempts the patient passed urine voluntarily. Again in another case, the discomfort and pain was so great at the end of only ten hours, that the catheter had to be

used, as all other means, were of no avail. Dr. J. Clifton Edgar cites a case where thirty-six hours passed before the bladder was emptied. Thus we see that each case has to be treated upon its own merits.

Another factor to consider in connection with fever in childbed is the possibility of the appearance of intercurrent diseases. Their course is usually not modified, only some are rather puzzling, because their symptoms are similar to those of sepsis. Therefore a good rule to go by is, that no matter how distinctly the symptoms may point to an intercurrent disease, a woman who has fever in childbed should first and most carefully be examined for septic complications, as sepsis may not only appear like, but also appear with, an intercurrent disease. There is, for instance, a very instructive case reported, also by Lackie, where a woman was suffering from bronchitis during the puerperal week, and was treated for it; as no improvement followed consultation was held and uterine sepsis as well as bronchitis was found. The patient died.

Of the intercurrent affections, the most frequently seen is malaria, as labor, as well as any surgical procedure, or in fact anything that lowers the resisting power of the organism, predisposes it to a recrudescence of a chronic or even a latent malarial infection, which is apt to appear in the second half of the puerperal week. On the other hand, malaria, like milk fever, has only too often been blamed, unintentionally and intentionally, for chills and fever, which really were due to sepsis, for some septic manifestations are of a short duration, and as the conditions improve the diagnosis of malaria is stoutly confirmed, especially as quinine is, as a rule, the medicine used. A diagnosis of malaria in childbed can never be conscientiously made until the presence of the plasmodium malarie is demonstrated.

Typhoid fever, which may occur during the puerperium and often presents a very puzzling clinical aspect, also should not be diagnosticated until either the Widal test or several pathognomonic clinical symptoms are present. The typhoid state, which sepsis may assume, should always be borne in mind. In this connection we would cite a case reported by Budin, where a woman, after a perfectly aseptically conducted labor, was seized with a fever which was suggestive of typhoid. The physician was very sure of his asepsis and treated the patient for typhoid. A closer examination later on revealed sepsis of a typhoid nature, the infection having been brought by the nurse, who had a sore finger.

Scarlet fever in puerperium is rather of a rare occurrence, either on account of immunity on the part of the pregnant woman, or because it is less common in adult life. Epidemics of it during puerperium have occurred. Some think that the scarlet fever poison enters the body through the wounds around the genitals, as the false membrane, local rash and local inflammation appear before the angina and the general eruption. The diagnosis is often obscure on account of scarlatiniform rash, which may come with sepsis, and the doubt often cannot be cleared until desquamation sets in; even then one is not always positive, as septic eruption is occasionally followed by peeling. Bacteriological examination can be of no help either, as it will be

the streptococci that will be found in either, scarlet fever or sepsis. The history of the case, the appearance of the throat and tongue, and subsequent course of the disease, are really the only things that decide the diagnosis.

Diphtheria, if suspected, can be easily diagnosed and thus differentiated from the puerperal ulcer, by the presence of the Klebs-Loeffler bacilli. In view of the virulence of the septic symptoms with which those of scarlet fever and diphtheria may be confused, any symptoms suggesting either of these two diseases should be regarded and treated as sepsis, until a positive diagnosis can be established.

Tuberculosis, which is in the great majority of cases aggravated by pregnancy, is apt to become still worse from the exhaustion of labor, and cause a good deal of febrile disturbance. The strain and drain of parturition may even change a localized pulmonary tuberculous process into a general miliary tuberculosis, and thus simulate a general septic infection, but under these circumstances the history and chiefly a careful physical examination would clear the diagnosis. The writer has had four cases of labor in tuberculous patients, where the temperature was ranging from 99° to 102° all through the puerperium. A most scrutinizing examination positively excluded any septic complications. Moreover it chanced that three of these patients had not been even once examined internally, for with them, as with so many of the tuberculous patients, labor seemed almost a painless procedure, possibly because of their slender build, or of the more or less advanced state of emaciation; and the physician is not sent for until the second stage was either well advanced or complete. The fourth case was examined only once, and under the most rigid antiseptic precautions. The only cause of the fever in all these patients was tuberculosis, with which they were all afflicted prior to their pregnancy, but which evidently became aggravated by the latter, and stirred up still more by the drain of parturition.

Measles, smallpox and pneumonia will once in a while complicate the puerperium. The first two mentioned occur but rarely, and usually run their ordinary course, while pneumonia, owing perhaps to the debilitated state of the general health, is of more frequent occurrence and is apt to take on a graver course.

A woman in childbed is rather susceptible to influenza, which, in addition to the ordinary train of symptoms, produces marked relaxation of the uterus, the peculiarity of it being that the local condition only improves with the general, and not before, in spite of any local treatment.

Up to the time when the nature and different manifestations of sepsis were understood there was also thought to be a predisposition in a woman in childbed to acute articular rheumatism, but now that these cases of joint involvement are known to be either gonorrhœal or septic arthritis, acute articular rheumatism in childbed is of rare occurrence.

Erysipelas in its ordinary primary form, and not as a part of septic infection, is also met with but rarely.

Owing to the contusion, frequent retention, and congestion, the latter due to the sudden change in the pelvic circulation, we occasionally meet with

cystitis in puerperium. It mostly occurs in cases where a catheter was used, though sometimes it will appear even where there was no interference, but where a latent or a chronic inflammation of the bladder is stirred up, or where the microorganisms find their way into the bladder either from without, or from the neighboring organs, or from some small, or perhaps an unsuspected fistula.

As a result of pressure from the passing head the ureters once in a great while become inflamed; from the ureters the infection may travel up to the kidneys, and thus produce pyelonephritis. These different affections of the urinary organs all cause fever, but owing to their more or less characteristic symptoms, they all can be diagnosed.

Chronic pelvic and abdominal diseases like ovarian cysts, pelvic peritonitis, salpingitis, typhilitis, and appendicitis, are occasionally stirred up after labor, causing fever in conjunction with their other symptoms, and owing to their anatomical situation the differential diagnosis in these cases is very difficult.

Old ischiorectal abscesses, sacroiliac arthritis, cholecystitis, and hepatic or nephritic colic may once in a great while occur in childbed and send the temperature up, but because of their characteristic symptoms they seldom cause any difficulty in diagnosis.

The diseases alluded to above represent most of the intercurrent affections apt to appear in childbed, and give rise to the so called nonseptic fever.

A few words about the pulse. While as a rule its rate always goes up with the temperature from any cause, it is never as feeble, small, and rapid as would be the pulse accompanying the same degree of septic fever. It is also especially slow during the first twenty-four hours after labor, altogether out of proportion to the temperature. This phenomenon of the bradycardia has been ascribed to various causes, as the physical and mental rest following labor, the horizontal position, the diminished work the heart is called upon to do, the increased arterial tension, the absorption of the products of degeneration accompanying the involution of the uterus, the stimulation of the cardiac inhibitory fibres resulting from the irritation of the vagus centre during labor, and so on. Judging from the numerous reasons offered, one would infer that the true cause of the slow pulse is yet obscure or perhaps unknown; but whatever it is due to, it almost invariably accompanies a normal puerperium during the first few days, and is a very good omen.

Of all the enumerated causes of nonseptic fever, the most common are constipation, over feeding and strong emotion. The others are very rare. When these three causes can be excluded, we must, as a rule, look for some omission or commission with regard to asepsis. And if we will always, when attending a labor case, prepare our hands as carefully as for a surgical operation; if we always boil whatever instruments we have to use, and not be satisfied with merely dipping them in hot water; if we see that the patient's external parts and skin around are thoroughly cleansed and pubic hair clipped; if we use no lubricant; if we touch nothing whatever with the examining finger, no matter how sterile, and separate the labia with the other hand; if we limit ourselves to as few internal examinations as pos-

sible; if we are not too precipitate in forcibly expelling the placenta; if, where we saw the patient before, we have forbidden coitus during the last month of pregnancy, and if we make an effort to avoid contact with contagious diseases at least on the day of labor, or, should such have been our misfortune, as it often happens with general practitioners, we take the trouble of changing our clothes and scrub still more and examine still less; if these and many other seemingly unimportant details will be remembered, we shall have less occasion to feel anxious about the temperature of our lying-in patients, and less occasion to rake our brains as to what may be the cause of the fever.

133 WEST TWELFTH STREET.

OCULAR ECZEMA IN CHILDREN.*

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Eczema is defined by Stelwagon as "an acute, subacute, or chronic catarrhal inflammatory disease, characterized in the beginning by the appearance of erythema, papules, vesicles, or pustules, or a combination of these lesions, with a variable amount of infiltration and thickening, terminating either in discharge with the formation of crusts or in desquamation, and accompanied by more or less intense itching and a feeling of heat or burning."

The application of the term eczema to other than affections of the skin is uncommon, yet it is well known that the most persistent eczemas exist at the mucocutaneous junctions, such as the anus, where the parts are kept moist and warm. It is also common in the vestibule of the nose, when it is accompanied by a mucopurulent discharge, suggesting a similar condition of the Schneiderian mucous membranes. Duhring (2) states that "the not infrequent association of eczema with chronic bronchitis and asthma inclines us to the belief that in some cases a relationship undoubtedly exists." Some forms of gastrointestinal disturbances also suggest the possibility of close relationship to eczema.

The picture presented by certain phlyctenular inflammations of the conjunctiva and of the cornea in children, in connection with the nearly invariable presence of eczema, forcibly suggest an identity with eczema. In them we see an acute, subacute, or chronic catarrhal inflammatory disease of the skin, on or about the eyelids of the conjunctiva, and often of the cornea, characterized in the beginning by erythema, papules, vesicles, or pustules, or a combination of these, with a variable amount of infiltration and thickening, terminating in desquamation, and accompanied by more or less itching and burning. You will recognize that this follows Stelwagon's definition with only slight modification to indicate its location in the eye.

This relation is recognized by Fick (3) and de Schweinitz (4) most definitely, who use the term of phlyctenular keratitis as synonymous with eczema of the cornea, while Fuchs (5) uses the term lymphatic or scrophulous conjunctivitis. The latter believes that, though there might be some relationship between eczema and phlyctenular disease, the proofs are lacking, and that this question can be definitely decided only when a specific microorganism is found.

Swanzy (6) quotes from Horner that "eczema of the eyelids, face, and external ear, and catarrh of the Schneiderian mucous membrane frequently accompany phlyctenular conjunctivitis and keratitis," and that "this affection (miliary phlyctenulæ) may be called eczematous conjunctival catarrh of children." De Wecker and Masselon (7) simply state that phlyctenular disease is frequently found in scrophulous and lymphatic subjects. Panas (8) speaks of the frequency with which impetiginous and eczematous eruptions accompany phlyctenular keratitis, and that the lymphatic disposition or temperament predisposes the child to both affections. Fukala describes among the causes of phlyctenular keratitis prolonged irritation of the lids and conjunctiva by a foreign body, granulations, chronic blepharitis, to which Panas adds catarrh of the lachrymal sac. Weeks (9) states that his experimental studies have convinced him that the staphylococcus is the inciting cause of eczema of the eye, as of general eczema.

Ocular eczema is commonly a disease of early childhood, the greatest majority occurring before the age of ten years. The ætiology is as difficult to ascertain as in the other forms of eczema. It is doubtless a local manifestation of a constitutional disorder, the exact nature of which is not easily understood. Heredity is very important, if we include as causative factors the predisposition caused by sexual and alcoholic intemperance, partly cured syphilis, tuberculosis, and uric acid tendencies of the parents.

These are among the more important causes productive of the condition usually called scrophulous or lymphatic. I have had many families, each containing a number of children, under my care at St. Christopher's Hospital for Children, in which each child would have a severe attack of ocular eczema as soon as the age of two to four years was reached. In each of these the father had died of tuberculosis. In many others I have noted that one or other, or both parents, and perhaps grandparents, are addicted to drink. Immoderate drinking of alcohol in the parent is generally accompanied by other abuses, which render the poor infant a physical bankrupt before it is born, after which event it is still further handicapped by neglect, unhygienic surroundings and improper feeding. After birth, the more common inciting causes are deficient digestion from improper food, or overfeeding, lack of cleanliness, exposure, any illness which depraves the bodily health, and especially the contagious diseases of childhood, such as measles, scarlet fever, pertussis, varicella, etc. Pneumonia is often followed by ocular eczema, in which the pneumococcus is perhaps the determining factor.

* Read before the Philadelphia County Medical Society, February 28, 1906.

The bacteriological factor is still unknown. Bruns (Graefe's *Archiv*, lviii, No. 3) injected dead tubercle bacilli into the cornea and into the arteries of animals, also into control animals, and of thirty-three that became ill, ten showed affections of the eye, and of these there were five that showed an affection resembling phlyctenular conjunctivitis; differing, however, in that the nodules were very minute and did not ulcerate. Burkhardt has cultivated staphylococcus pyogenes aureus, albus, and flavus, and considers these the determining factors. Uhthoff states that the following are the principal microorganisms that have been found in various forms of keratitis: 1, the Fraenkel-Weichselbaum capsulated diplococcus; 2, streptococci; 3, staphylococci; 4, Pfeiffer's encapsulated bacillus; 5, bacillus pyogenes fetidus; 6, bacterium coli; 7, bacillus pyocyaneus; 8, diplobacillus; 9, ozæna bacillus; 10, aspergillus fumigatus; 11, tubercle bacillus; and 12, lepra bacillus.

As eczema, and especially that form known as phlyctenular disease, is almost universally regarded as noncontagious, the microorganismal

second year the increase was very great, showing 129 cases, or 14.3 per cent. From this age there is an almost constant decline, the third year showing 110 cases, or 13.2 per cent. The fourth year declines to ninety-one cases, or 10.97 per cent.; the fifth presents sixty-six cases, or nearly eight per cent. In the sixth there were sixty-seven cases, or slightly over eight per cent. In the seventh year there were fifty-five cases, or 6.6 per cent.; in the eighth year fifty-eight cases, or nearly seven per cent. The ninth year showed a further decrease to forty-three cases, or 5.1 per cent.; the tenth year an increase to fifty-one cases, or 6.1 per cent. The eleventh year of childhood showed but thirty-nine cases, or 4.7 per cent. The twelfth year encompassed twenty-six cases, or 3.1 per cent.; the thirteenth twenty-two cases, or 2.4 per cent.; the thirteenth and fourteenth year of life showed the same number, namely, twelve cases, or 1.4 per cent., which in the fifteen year diminished to six cases, or 0.7 per cent.

These figures would seem to show that ocular eczema is most prevalent in the years of life in-

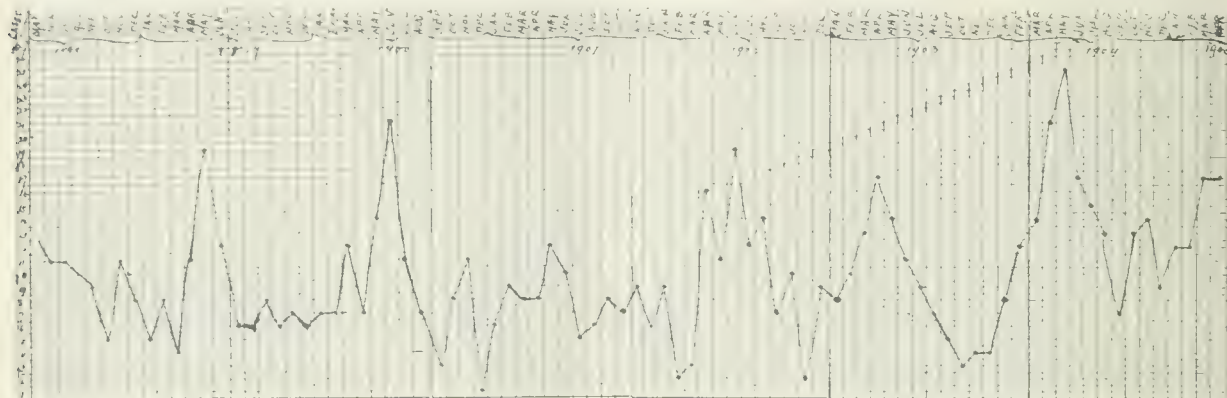


CHART 2.—Indicating frequency of ocular eczema, according to time of year.

element must assume a secondary part in the etiology. In my personal examinations I have found staphylococci of various forms most frequently present. Phlyctenular conjunctivitis and keratitis are simply one of the many manifestations of eczema about the eye.

In an examination of the records of 3,830 eye patients presenting themselves consecutively during my service at the St. Christopher's Hospital for Children Dispensary during a period of seven years ending May 1, 1905, I found 831 cases suffering from some form of ocular eczema. In most of these cases more than one manifestation of eczema was present.

It is stated by Duhring that forty per cent. of all skin diseases are due to eczema in Philadelphia, while in Chicago, Baltimore, St. Louis, Boston, Philadelphia, and New York the average has been found to be 34.23 per cent. From the above it is indicated that twenty-one per cent. of all eye diseases, including errors of refraction occurring in children under sixteen years, is due to eczema.

If you will consult the accompanying chart you will notice that forty-four cases, or 5.3 per cent., occurred in the first year of life. In the

involved by the change of diet from nursing to milk or table food. It is at this period when diarrhœa and other intestinal manifestations are most common. As you well know, the laity places great stress upon the ability of the infant to pass or live through the second summer. The economy is further disturbed in many of these cases by the difficult eruption of the teeth. At this time also the child is often placed upon the floor to play, and manages often to revel in dirt in houses that are poorly ventilated.

Finally, when the coming of the first and enervating heat of the summer finds these babies in a depressed state of general health, a pustular or other eczema of the scalp, or skin behind the ears or pinnae, face, cheek, nares, eyelids, or phlyctenular disease appears in the susceptible individual, often accompanied by purulent discharge from the nose, bronchitis, constipation, or diarrhœa, loss of appetite, etc.

The second chart indicates very closely that in the seven years the largest number of cases occurred in May during four of the years, in June for two years and in April the remaining year. In other words, the period of greatest prevalence is during the spring months, from which it rapid-

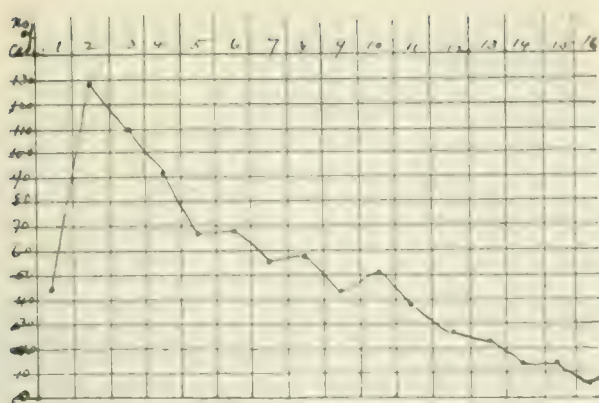


FIGURE 1.—AGE OF PATIENTS IN YEARS.

ly subsides to a much lower level, being least common during the winter months.

One of the causes of this appearance undoubtedly is the greater frequency of the acute infectious diseases and pulmonary inflammations during the winter followed by incomplete convalescence. The increasing atmospheric temperature and its accompanying effect in fermenting milk for the baby, etc., add the final straw.

As the patient gets older the resisting power is increased. Relapses become much less frequent in the older children. The severity of the corneal lesion seems to be most often marked in the second and third year of life. I have seen relapses in patients that had recuperated in general health tremendously, but in these cases the patients had returned to their homes and unsanitary life. Occasionally, however, the apparently robust individuals are attacked. The robustness of these patients is more apparent than real, even as chlorotic individuals often appear well nourished.

The manifestations of ocular eczema assume different phases according to the part that is predominantly attacked. The lids, palpebral or bulbar conjunctiva, and cornea may be attacked singly or in varying amounts in combination. The most typical picture is presented when all of the parts are simultaneously involved.

When the lids are the seat of an eczema (usually of the squamous variety) it is most commonly in the outer canthus, and is triangular in shape, with the base down and out. When the lids are widely opened bleeding usually follows. The whole lid, in bad cases, may be covered with papular or pustular eruption. The lid may be clear except for a linear exudate about one to three millimetres wide, extending parallel with the margin of the lids.

When but slightly affected, a chronic scaling along the lid margins, with an occasional small pustule, may be the only external evidence of eczema on the lids, when the diagnosis may be confirmed by its presence in other parts of the eye or general system, and by the absence of other symptoms of eye strain. The hair follicles are often involved, as in cases of eczema capitis, when the individual hairs affected frequently fall out. After this has persisted for some time, the cilia sometimes entirely disappear.

It differs from marginal blepharitis of errors of refraction and muscular deviation in that it is usually accompanied by a slight catarrhal conjunctivitis and the burning or itching sensation and the exfoliation are usually more marked.

Frequent attacks of styes in children two years old are probably due to a similar infection, especially when other forms of eczema are present. In severe cases, the lids, especially the upper ones, are tremendously infiltrated, causing a complete inflammatory ptosis. The conjunctiva is sometimes solely affected, but usually accompanies the other forms of eczema. The conjunctival vessels are very full and hyperæmic, the palpebral conjunctiva much reddened and a slight catarrhal discharge ensues, showing itself usually by a slight crusting in the inner canthus. It is accompanied by itching and burning, and is more persistent than the ordinary forms of catarrhal conjunctivitis.

The catarrhal symptoms vary from slight to very marked degrees. The conjunctiva may be rough and greatly swollen, or chemosed, rarely smooth and velvety, but more often somewhat roughened, showing the follicles slightly enlarged. Most frequently we find small sandlike particles or phlyctænulæ covering the palpebral, as well as the bulbar conjunctiva.

In a short time, sometimes simultaneously and most often without apparent previous involvement of the palpebral conjunctiva, a large blister-like phlyctænula appears more or less near the corneal margin, very rarely located behind the insertion of the recti muscles, and usually upon the exposed portion of the bulbar conjunctiva. Instead of one there may be two or three, and most frequently an immense number of exceedingly minute phlyctænulæ, more or less completely surrounding the cornea, closely hugging its edge. The characteristic feature of the phlyctænula is that it is an aggregation of lymph cells, situated below the conjunctiva, which is lifted up thereby. It, therefore, presents a small discreet elevated papule, which finally ulcerates at its apex, after which the whole phlyctænula gradually is absorbed.

The phlyctænulæ are accompanied by congestion of the larger conjunctival bloodvessels, which becomes more intense and deeper as they approach the corneal tissues. The ciliary vessels usually become involved when the eruption involves the cornea, even at its periphery. This is evident by a deep pink shade of the congestion surrounding the cornea.

At times the photophobia which is present more or less in all forms of phlyctænular disease becomes more intense, and within a few hours there will appear one or more grayish spots in the clear tissues of the cornea. The spot or spots on the cornea, it will be noticed, are elevated above the surrounding corneal tissue, and give the sensation of a foreign body. The tendency is to rub it. It is accompanied by intense photophobia, lachrymation, and a burning pain. The lids do not adhere as a rule, the secretion being usually watery, copious in amount and acrid, often causing erosions and eruptions on the cheeks. There is tarsal and ciliary congestion,

the pupil being much contracted by the irritation. This congestion and irritation is more intense as the deeper corneal structure is invaded.

These phlyctenulæ on the cornea soon break down at their apices, each presenting an ulcer of varying size. Any part of the cornea may be involved, the number of ulcers varying from one to many. The central ulcer is the most serious on account of the immediate and remote disturbance of vision due to the uncertainty of absorption of all of the inflammatory deposit after the healing of the ulcer.

Frequently the process does not only involve the superficial layers of the cornea, but penetrates deeply, causing hypopyon, and in neglected cases perforation with prolapse of the iris and staphyloma. For instance, the following case:

L. M., three years old, female, had right eye sore for two months, for which she was treated by a general practitioner. As the eye continued to be sore, she came to the St. Christopher's Hospital Eye Clinic.

The right eye shows tarsal and ciliary congestion, the cornea is partly opaque, staphylomatous, the prolapsed iris caught in wound of the perforation. There is marked eczema of the neck and ear present.

A typical picture of ocular eczema is as follows: The child when carried will bury its head in the bearer's shoulder and refuse to show its head. If it is led, it will walk with closed eyelids and shade its eyes from light with the forearm. One glance shows eczema of the scalp, or ear, and nares, with a thick purulent discharge from the latter. On the cheek is a papular, pustular, or squamous eczema.

The tears flow freely, necessitating the almost constant use of a handkerchief, usually a dirty one, to further infect the cornea. The conjunctiva is reddened with numerous phlyctenulæ, especially on the corneal margin. In severe cases there are one, or more central corneal ulcers. The pupils are contracted. The eyeball is examined with difficulty in severe cases, on account of the struggles of the child. Often it is necessary to place the child's head into a towel, placed across the knees in such a way that the child's head can be held securely by the knees, while the body and arms are retained and restrained by the mother or an assistant.

Careful tension on the lid edges, pushing at the same time slightly against the eyeball, will draw the lids away, forming a palpebral fissure. Sometimes a Demarre lid elevator becomes indispensable. Slight bleeding at the outer canthus is a very frequent consequence in spite of the greatest care exercised in forcible opening of the eyelids, but no great harm is done thereby.

The subjective symptoms are difficult to elicit on account of the age of the patient, but the analogy with cases in older patients discloses the following symptoms:

At first there is a slight pricking and burning feeling, followed by the sensation of a foreign body. When the palpebral conjunctiva is especially affected, there is a free mucus or mucopurulent discharge, with adhesion of the lids in the morning. The swelling of the conjunctiva is sometimes very great when there is a feeling of fullness and bulging.

As the cornea becomes involved, the secretion is free and watery, and the catarrhal discharge is less, the photophobia becomes more strongly marked, and Panas points out that the photophobia is less due to hyperæsthesia of the retina than it is caused by the action of the surrounding air and variation of temperature upon the parts of the cornea deprived of epithelium. I believe that another and perhaps more important cause is the rubbing of the roughened conjunctiva of the upper lid upon the exposed nerve endings at the base and sides of the ulcer. Therefore will a child bury its head and lightly press it upon the mother's shoulder, or upon the pillow, in order to keep the lids stationary. It will refuse to open the lids in a dark room. A further cause is perhaps the slight evaporation and concentration of the salt tears upon the wounded surface of the cornea.

There is in addition to the photophobia and lacrimation a pain which at times becomes very severe, causing restlessness or sleeplessness. There is a severe burning pain of the face, as there is usually a papular or scaly eruption on the cheek over which the salt tears flow, and in drying cause further excoriation, unless protected by some bland ointment or powder.

The temperature of the patient, as a rule, is slightly elevated, rarely rising above 101° , unless accompanied by some other complication. As stated, the course of the disease varies with its severity, from a few days to three weeks, and even very much longer if the severe corneal case is treated as outdoor patient in the clinics.

Relapses are exceedingly common, unless the treatment is continued for a long time after the patient's apparent recovery, and sometimes will recur in spite of the fact that the child has apparently recovered and has every appearance of robust health. A few days' sojourn in their home brings a comparatively mild relapse to the surface which if neglected will increase in severity. The course of the disease is greatly modified by appropriate treatment.

The prognosis of the ocular eczema of childhood is generally good, provided the treatment is applied early and energetically. When the ulceration has become deep, and especially if perforation takes place, the prognosis for sight is poor. Staphyloma of the cornea will probably result, and if the perforation has been extensive the iris will be attached to the posterior surface of cornea, and the globe will become phthisic. Doubtless these severe cases are due to some bacterial infection in addition to that usually associated with eczema. The less deep the ulceration has been, the more promptly will all opacities in the cornea disappear, and as the child grows older and the cornea gets larger, the opaque scar tissue is absorbed and frequently a clear cornea will result. Irregular astigmatism commonly results, which in some cases can with difficulty be helped, and the persistence of which causes a severe chronic, marginal blepharitis which is difficult to cure.

The treatment of ocular eczema in children is important, and comprises three phases: 1, Hy-

gienic and dietetic; 2, medicinal; and, 3, local medication.

The hygienic treatment consists in fresh air (out doors when possible), good, nourishing, wholesome food, the withdrawal of all indigestible foods, sweets, and pastry of all sorts, frequent bathing of the whole body, and in severe cases absolute rest in bed.

The room, when the patient is confined, should be large, airy, and open toward the south and west, so that the sun can penetrate. The ventilation should be free, and the windows widely opened whenever the weather permits. The direct sunlight should not be allowed to strike the patient, but strong, diffused light is beneficial. A dark room should never be permitted, but substituted by tinted lenses, shade, or a bandage in cases where the discharges are not great. In deep and painful corneal ulcerations a pressure bandage is often a great relief. An entire change of scene, say, from the country to the seashore, and vice versa, in chronic cases sometimes achieves good results.

The diet should be simple and nourishing. A properly modified milk in the youngest patients, combined in older patients with eggs, fresh cooked meat, or raw meat juice, orange juice, fresh and well cooked vegetables, stewed fruits; omitting sugars, candies, sweets of any kind, cakes, pies, puddings, and all pastries. Sugar corn, bananas, peanuts, and pretzels should be especially forbidden, as they are most apt to be furnished by the parents. Fried food of all kinds should be prohibited.

The whole body should be given a bath daily, preferably with sea salt in the water. This bath is best given warm at bedtime, followed in older children by a short, cold sponge bath, and rub down with coarse towel. If the cold water causes a chill and is not followed by an after glow, it is to be avoided.

In the severer corneal lesions absolute rest in bed is followed by the best results, and in deep ulcerations it should be insisted upon, otherwise the condition will not improve, but rather will get steadily worse, or at least make a slow convalescence. The eczemas of the skin and conjunctiva are best treated as ambulant cases, spending as much time as possible in the open air.

The medical treatment consists of tonics to increase the appetite and digestion, and act as alteratives. When the bowels are constipated, small doses of calomel, 0.1 to 0.05 grain, three times daily are indicated.

A favorite formula which acts as a tonic and alterative is the following:

℞ Syrup. ferri iodidi, ℥iv;
Syrup. acidi hydriodici, ℥i;
Syrup hypophosphiti (simple or compound, according to the case), ℥iss.

M. Sig.: Teaspoonful in water before meals. In children twelve to fifteen years, two drachms are given.

In strumous or specific cases, syrup of hydriodic acid, one drachm, three times daily, is found to act satisfactorily. In some cases small doses of arsenic almost acts like a specific. Inunctions of cod liver or sweet oil are of benefit in weak in-

dividuals. In other words, the medicines that are roborant are the ones that give the best results. I have seen no great benefit from the administration of sodium salicylate.

Attention must be directed to eczema in other parts of the body, but most particularly to that occupying the nares, and accompanied by a purulent discharge, the cure of which is a necessity. For this purpose, an alkaline cleaning wash, and a bland ointment, such as unguentum acidi borici, serve well.

The local treatment required in the milder cases of eczema of the conjunctiva is a simple boric acid wash, with perhaps the addition of a small amount of cocaine and adrenalin, if there is much congestion or itching.

℞ Acidi borici, gr. xxv;
Cocaine hydrochloridi, gr. v;
Sol. adrenalin., 1-1000, ℥i;
Aque destillatæ, ℥iij.
M. Ft. solut. Sig.: Five drops in eyes every three hours.

When the cornea even at its periphery is attacked, it is advisable to put the ciliary body at rest at once by the use of a mydriatic, preferably atropine. The yellow mercuric oxide ointment, one grain to two drachms of petrolatum, introduced into the eye at night, causes rapid absorption of the phlyctenulæ. It should not be used in the earlier part of the disease when the corneal lesion has reached the deeper layers, or when the eye is easily irritated. It does most good after the apex of the phlyctenulæ has ulcerated. Dark glasses should always be worn, on account of the photophobia.

After the disease has passed the acute stage, insufflations of calomel or iodoform (of which I prefer the former) into the ulcer act very beneficially.

In corneal cases, where there is but little conjunctival swelling or discharge, a bandage is very grateful to the patient, as it prevents attrition of the lid. Otherwise a plane, tinted lens in spectacle frames is advised. Subconjunctival injections of normal salt solution have not proved satisfactory in my limited experience, except in traumatic cases.

Ethyl morphine hydrochloride solutions, four per cent. to fifteen per cent., are of some benefit in aiding in the disappearance of the resulting scar. Care must be taken that all irritation and inflammation have disappeared before the use of strong solutions of this compound, as I believe that I have seen several severe relapses caused by its early use. In some cases it has been found necessary to cauterize the ulcer with electrocautery, or tincture of iodine, or carbolic acid, when the resulting scar is apt to be quite opaque. Hot or cold compresses are very useful, the latter being most useful in the early stages of the corneal disease, while the former aid in the absorption of the lymphatic or phlyctenular masses.

In the treatment of eczema of the lids and cheek I have found this prescription of most value:

℞ Acidi borici, gr. xv;
Petrolati, ℥iv to ℥i.
M. Ft. Ung. Sig.: Apply freely.

Dusting the sores with finely powdered calomel at times acts like a specific.

While many other remedies are of value, I have detailed only those which have given me the greatest service.

In conclusion: Ocular eczema is a disease common in childhood, forming twenty-one per cent. of all eye diseases in children under sixteen years. It is most common at the age of two years, becoming less frequent as the age advances. It is endemic, but especially prevalent during the months of May, June, and April, in the order named. Treatment is very important in modifying its progress and tendency to relapse, and should comprise general treatment with attention to diet and hygiene, as well as local treatment for the eye; the severer and stubborn cases quickly improve when rest in bed is required of the patient.

References.

1. Stelwagon. *Diseases of the Skin*.
2. Duhring. *Diseases of the Skin*.
3. Fick. *Diseases of the Eye and Ophthalmoscopy*.
4. De Schweinitz. *Diseases of the Eye*.
5. Fuchs. *Lehrbuch der Augenheilkunde*.
6. Swansy. *Diseases of the Eye*.
7. De Wecker and Masselon. *Traité complet de l'ophtalmologie*.
8. Panas. *Traité de maladies des yeux*.
9. Posey and Wright. *Diseases of the Eye, Ear, Nose, and Throat*.

930 NORTH FRANKLIN STREET.

ATYPICAL CLINICAL FEATURES OF APPENDICITIS.*

By ELLSWORTH ELIOT, JR., M. D.,

NEW YORK.

(Concluded from page 1282.)

ACUTE APPENDICITIS SIMULATING SURGICAL KIDNEY.

CASE XX.—J. F. M., twenty-six years of age, male. Referred by Dr. McManus. Previous attacks. Five months ago, ten and six weeks ago patient had obscure pain in the abdomen without fever or prostration. During the last attack only, on account of the pain, he remained in bed for three days. Patient has had gonorrhœa four times, and at present there is a gleet discharge from the penis. Three days before admission, shortly after an indiscretion in diet, dull pain appeared in the right lower abdomen, and became steadily worse, keeping patient awake at night. He worked as usual the following day, the pain persisting. On the third day it became still more severe and on account of fever and weakness patient remained in bed.

Examination. The abdomen was generally rigid, especially in the lower right quadrant, where deep palpation was impossible. There was excessive tenderness over the right kidney posteriorly, and pressure over the tip of the twelfth rib also caused great pain. Temperature 102.05°, pulse 110. Leucocyte count 19,000. Urine is free from blood and pus (bladder).

Operation. Under the general anæsthetic, no distinct mass could be made out in the kidney region. Owing to that fact as well as to the absence of pus and blood in the bladder urine a diagnosis of appendicitis was made, and the operation conducted accordingly. The appendix was found, extending up behind the cæcum to a point over the kidney. Its tip was curled upon itself like a fishhook and was acutely inflamed. The entire organ was firmly adherent to the retrocæcal tissues. There was no distinct collection of pus at any point save in its distal distended extremity, which was greatly swollen and congested. Drainage. Closure.

* Read before the Harlem Medical Association on March 7, 1906.

There was a purulent discharge during the first two weeks of convalescence.

Subsequent examination showed acute purulent inflammation in all the coats of the appendix.

ACUTE APPENDICITIS WITH SLIGHT SYMPTOMS AND MARKED LESIONS.

CASE XXI.—K. G., female, nineteen years of age. No previous attacks. Pain appeared four days before operation in the right iliac fossa without known cause, lasting only for half a minute, but recurring frequently during the first two days. Since that time the pain was present only on walking and was slight. Vomiting occurred once at the onset.

On admission, the pulse, respiration, and temperature were normal. There were very slight rigidity and tenderness in the right iliac fossa. Leucocytosis is 6,000.

Operation. The appendix was retrocæcal, markedly inflamed, and swollen. Its separation on account of firm adhesions was difficult. Complete closure. Microscopical examination showed acute purulent inflammation. Recovery without reaction.

CHRONIC APPENDICITIS: (I) Interval cases with local abscess.

CASE XXII.—R. R., thirty-nine years of age, male. Referred by Dr. Hewlett. Previous attacks. First attack twenty months before operation, and a little later two similar attacks, all without vomiting. Fourth attack about two and one-half months ago, with severe local pain and vomiting, lasting four days, and followed by persistent tenderness for two weeks in the right iliac fossa. For the past two months he had been entirely free from pain and able to work without interruption. He desired operation to prevent further trouble.

Examination. There was no pain, tenderness, or rigidity in the right iliac fossa. The pulse, temperature, and respiration were normal.

Operation. The small intestines were adherent to one another over the cæcum. On separation of the adhesions a small abscess, containing an ounce of pus, was discovered. In its wall, and extending down into the pelvis, was the appendix, thickened, red, and friable. Drainage. Recovery.

CASE XXIII.—G. G., twenty-six years of age, male. Four weeks before admission patient had a severe attack of pain over the gallbladder, extending downward along the right side into the testicle. The temperature was 103°, but on the following morning the pain and tenderness had entirely disappeared, and the pulse and temperature were normal. He wished the removal of the appendix.

Examination. There was no mass and nothing of an abnormal nature to be felt in the abdomen.

Operation. Behind the cæcum was an abscess containing several ounces of foul pus. The stump of the appendix only was found and ligated, the distal portion having disintegrated. Drainage.

Considerable reaction for five days from septic absorption without peritonitis. After the first week, rapid convalescence. Recovery delayed by the formation of a fæcal fistula which persisted until the eighth week and then closed spontaneously.

These cases of abscess, in one of which no symptom of any kind had existed for one month, and in the other for two months prior to operation, are practically examples of the type already mentioned of acute cases subsiding with the persistence of pus. In both no mass even under the anæsthetic could be felt, and the right iliac fossa presented no abnormal feature. They emphasize the importance of an operative technique that presupposes the presence of pus until its absence has been proved,

even in cases where months have passed since the complete subsidence of the last attack.

In Case XXIV, the history of which follows, a small abscess had unquestionably formed during one of the previous attacks of which the last four weeks prior to operation had proved the most severe. On examination, prior to operation, a mass was found in the right iliac fossa and owing to the somewhat advanced age of the patient (sixty-eight), malignant disease of the cæcum complicated by recurrent appendicitis was not considered improbable. The mass, however, proved to be composed of the enlarged and swollen appendix imbedded in several ounces of cheesy material, attached to the lower and outer wall of the cæcum, a segment from which neoplasm does not usually take its origin. The subsequent rapid healing of the wound was evidence of the sterility of the old abscess material, while the microscope, together with the continued freedom from recurrence excluded the possibility of malignant disease.

(2.) Interval case with remnant of old abscess cavity forming a mass.

CASE XXIV.—R. W. R., sixty-eight years of age, male. Five previous attacks during the past year. Patient had suffered from "bilious attacks," consisting of pain in the epigastrium and vomiting, each attack lasting a few hours. Four weeks before admission, an attack more severe than any of the others, occurred. In the beginning the pain was in the left hypochondrium; at the end of three days it had traveled down the left side and transversely below the level of the umbilicus into the right iliac fossa, where a mass appeared. Patient was in bed for one week, tenderness persisting afterward.

Examination. There was a sausage shaped mass about the size of a lemon in the right iliac fossa. There was no tenderness nor rigidity. There were no constitutional symptoms. Leucocyte count is normal.

Operation. The cæcum was found adherent to the posterior parietal peritonæum. To its lower portion and involving its wall was the mass in which, surrounded by cheesy material, the appendix was imbedded. The appendix was twisted upon itself at an acute angle, and was enlarged and thickened. It was not, however, infiltrated by the inflammatory material. Complete closure with a very small rubber tissue drain. Prompt union took place without, at any time, the presence of a purulent discharge. Subsequent microscopic examination of the appendix as well as of the adjacent inflammatory tissue showed no evidence of neoplasm.

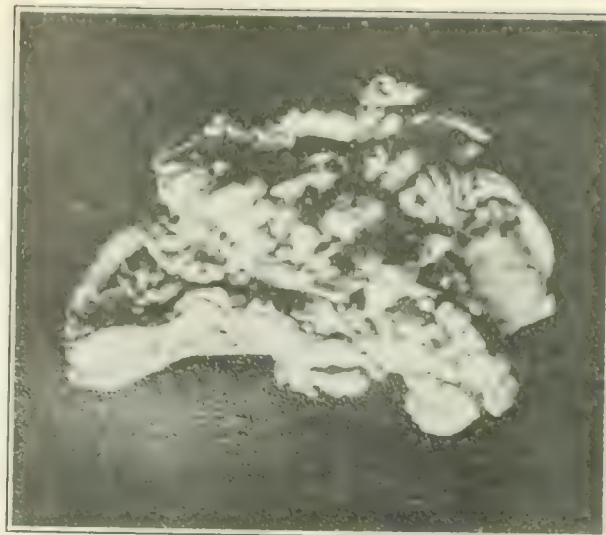
(3.) Interval case simulating chronic obstruction from fecal impaction.

CASE XXV.—P. M., nineteen years of age, male. Previous attacks. There was a history of obstinate constipation during the past three years. Six months ago, there was an attack of pain in the right iliac fossa which disappeared in two days after a satisfactory movement of the bowels. On morning of admission there was a dull aching pain in the right side, and the bowels had not moved satisfactorily for the past two weeks.

Examination negative save for slight tenderness over the appendix region.

Operation. Appendix retrocæcal with its tip very firmly adherent and thickened. Chronic inflammation of all coats. Prompt recovery with relief from constipation.

(4.) Interval case, the symptoms due to neoplasm (papilloma).



Appendix divided along its free border and turned out, showing papillomatous mass.

CASE XXVI.—A. H., female, thirty-one years of age. Photograph with this case by Dr. S. P. Rainforth. Past history is negative with the exception of an attack of measles and diphtheria years ago. No history of any trouble in the abdomen. The night before admission patient was seized with pain in the right iliac fossa, radiating toward the liver, cramp-like in character, which persisted for a number of hours. Patient immediately went to bed and had several moderate chills, each lasting for ten minutes. The following day, patient vomited a number of times before coming to the hospital and complained of considerable tenderness in the right iliac fossa. The bowels did not move yesterday and but once to-day. Patient has taken no nourishment since the onset of the pain. The chief complaints are pain and tenderness in the right iliac fossa, vomiting and slight constipation.

Examination. There was a presystolic thrill and murmur, the heart being in a condition of complete compensation. The abdomen was held rigid everywhere, but especially in the right lower quadrant. There was tenderness just within and below the anterior superior spine. At this point, on the following day, could be felt what seemed to be a thickened appendix. On admission, the temperature was 100.5°, the pulse 112 (excitement), both becoming normal on the third day, when the pain and tenderness had also disappeared. Leucocytes count was 15,000.

Operation. Under the anæsthetic, a knoblike mass was felt in the right iliac fossa. On opening the abdomen, the appendix was found adherent to the lateral wall of the pelvis along the ileocecal line. It was easily separated and brought up into the wound, looking like a curved sausage throughout its entire extent except its cæcal extremity, which was normal. The line of demarcation between the enlarged portion and the half inch of its normal cæcal base was very sharply defined. Complete closure without drainage. The distension of the appendix was found on section to be due to a mass having the appearance of granulation tissue which entirely filled its lumen. It was separated from the normal cæcal end by a constriction and near its tip was another constriction beyond which a pocket of foul purulent fluid had collected.

Laboratory report by Dr. Crump. There are traces of pus on the mucous membrane of the appendix which is elevated into shaggy, villous papillæ from one half to three quarters of an inch in length of pinkish color and of moderately firm consistency. On microscopical examination, these elevations are found to consist of true

papilloma, which invade neither the submucosa nor the muscular coat. The tumor masses show a marked grade of purulent infiltration.

Primary new growths of the appendix are very rare. Several scattered cases of primary carcinoma have been reported, but so far as the writer knows this is the first instance of a benign tumor to be published.

The case is also of interest from the fact that partial occlusion of the lumen of the appendix by the papillomatous masses proved an important factor in determining the outbreak of the attack. The patient had been in the best of health until the day prior to admission into the hospital with no suspicion of trouble in the right iliac fossa, yet, during the same time, for months if not for years, the papilloma was slowly increasing to a size that, as gross examination showed, prevented the discharge of the contents from the distal portion of the appendix into the cæcum. The case is classed with chronic appendicitis because of the presence of the benign growth. From the character of the associated inflammation it should have been included in the group of acute appendicitis subsiding with the persistence of pus.

(5.) Chronic appendicitis with lesions out of proportion to the clinical course.

CASE XXVII.—G. C., thirty-one years of age, male. Previous attacks. Two months ago abdominal pain referred to umbilicus, lasting for twelve hours with soreness persisting for two days after, with one attack of vomiting. Three days before admission, there was sharp pain in the right iliac fossa of several hours' duration with vomiting.

Examination was negative, with no constitutional symptoms.

Operation. Appendix was found imbedded in the posterior wall of the cæcum, its wall treble the ordinary thickness, reddened and turgid. There were many and old tough adhesions. Microscopic examination showed considerable inflammatory infiltration and some areas of old cicatrices.

CASE XXVIII.—W. S., fourteen years of age, male. The first attack occurred four months ago with pain, one attack of vomiting and constipation. The second, a similar attack ten days ago, quickly subsiding.

Examination. There was local tenderness over the appendix with a small finger shaped mass. No rigidity.

Operation. The appendix was retrocæcal, firmly adherent, with a kink in its centre beyond which the organ is dilated. There is considerable inflammatory infiltration in both parts.

CASE XXIX.—F. B., female, twenty years of age. Previous attacks. Three years ago, patient had an attack of pain with vomiting in the right lower abdomen. She remained in bed for four weeks. Since then there has been occasional obscure pain in the same place, the last attack occurring about five weeks ago and quickly subsiding.

On examination, there was slight tenderness in the right iliac fossa.

Operation. The appendix was four inches long and pointed downward and inward into the pelvis. Its distal half was bound down firmly by adhesions to the pelvic wall and to a loop of small intestine. On section its lumen was distended with blood, and on microscopical examination its coats were found to be the site of chronic inflammation.

CASE XXX.—W. C., male, thirty years of age. Previous attacks. There was one slight attack each year for the past three years, not interfering with the patient's work. Seven days before admission there was

dull pain in the lower right quadrant, shortly becoming localized over the usual appendix site. Patient was not confined to the house and had no constitutional symptoms.

Examination. Only slight tenderness on deep pressure.

Operation. The appendix was retrocæcal, forming a sharp acute angle, and firmly bound down by adhesions. There was much congestion at the tip. At the angle there was a stricture.

CASE XXXI.—M. H., sixteen years of age, male. Previous attacks. For the past three weeks patient has had occasional attacks of pain appearing at first on both sides, afterward in the right lower quadrant only, of half an hour's duration and not sufficiently severe as to interfere with work. At no time had there been any constitutional disturbance.

Examination disclosed nothing abnormal.

Operation. Appendix firmly bound by adhesions to the lower outer wall of the cæcum, where it was bent at an acute angle on itself. It is thickened and congested. Prompt recovery.

CASE XXXII.—H. B., thirteen years of age, male. Referred by Dr. Logan. Previous attacks. Two attacks, six and two weeks prior to admission, of seven and five days' duration, respectively, without vomiting. One week ago pain again appeared, but did not compel the patient to go to bed until the third day. The pain was over the umbilicus and the region of the appendix, and was subsiding on admission. No vomiting nor constitutional symptoms.

Operation. The appendix was behind the cæcum, adherent and bent at a remarkably acute angle upon itself. It was thick and inflamed. No pus, complete closure. Recovery.

CASE XXXIII.—S. L., nineteen years of age, female. Previous attacks. One year ago, during an attack of diphtheria, patient was seized with pain in the right iliac fossa, lasting four days. Two months later a second attack confining her to bed for five days. In neither attack vomiting occurred. This morning patient again had pain in the lower right abdomen, with several attacks of vomiting.

Examination. There was slight tenderness and rigidity at the site of the pain. No constitutional symptoms.

Operation. The appendix, four inches in length, was entirely imbedded in the retrocæcal tissue, its extremity curved like a fishhook in front of the kidney. It is greatly thickened. Complete closure with primary union. Microscopical examination showed the usual changes of old chronic inflammation.

CASE XXXIV.—S. M., female, twenty-seven years of age. Previous attacks. For past three years, without any reference to menstrual periods, patient has had at intervals of three or four weeks colicky pain over the region of the appendix. The pain generally lasted twenty-four to forty-eight hours, and was occasionally accompanied with nausea. Two years ago she was operated on at the Woman's Hospital for floating kidney. The pain has gradually become worse.

Examination was negative.

Operation. The appendix was retrocæcal and bent at a sharp angle upon itself, its distal extremity having the appearance of a fishhook. Its proximal half was tightly adherent to the wall of the cæcum. Complete closure. Primary union.

CASE XXXV.—Male, eleven years of age. No previous attacks. One week ago patient had a headache, with some prostration. Three days later dull aching pain appeared in the right lower abdomen. Pain shortly after disappeared, tenderness persisting.

On examination, slight tenderness was found over the region of the appendix, but no mass.

Operation. Appendix formed a volvulus upon itself adherent to the wall of the pelvis, the two loops being

firmly joined by connective tissue where they crossed. Complete closure. Primary union.

CASE XXXVI.—F. C., male, thirty-one years of age. Previous attacks. Six years ago patient had an attack of severe cramplike pain over the stomach, with one attack of vomiting. Later the pain became localized in the lower right abdomen. Two months ago a similar attack occurred. At present patient complains chiefly of the persistence of the tenderness.

On examination, only slight tenderness over the appendix can be made out.

Operation. Appendix pointed downward and inward to the wall of the pelvis, to which it was adherent, as well as to the small intestine and omentum. It was much thicker than normal and presented the usual signs of old inflammation. Complete closure. Primary union.

CASE XXXVII.—Male, twenty-five years of age. Patient when five years old had a right lumbar abscess resulting from a tuberculous coxitis leaving a sinus which persisted to the eighteenth year. Previous attacks. During the past six months patient has had occasional attacks of colicky pain in the right iliac fossa which, on occasion, were accompanied with vomiting. At no time was the patient confined to the house. Examination was negative.

Operation. Appendix was retrocaecal, with a bulbous extremity which was very firmly adherent to a mass of cicatricial tissue at the site of the old lumbar abscess. The mesenteric glands to the left of the cæcum were caseous and enlarged. Complete closure. The old abscess reappeared ten days after the operation, but promptly closed when a counter opening was made in the back.

CASE XXXVIII.—J. T. B., forty-four years of age, male. No previous attacks. One week ago, after an attack of constipation, patient was seized with severe cramplike pain in the right side of the abdomen. The pain, which was persisting, varied in position. At times it was in the lower right quadrant; again, higher up over the kidney, from which point it radiated to the bladder, the right groin or to the shoulder; at other times it was most marked in the left lower abdomen. There had been no nausea or vomiting at any time, and the patient continued to work until yesterday, when he applied for treatment on account of the pain.

Examination. There were points of tenderness over the gallbladder, the right kidney at the level of the umbilicus, and in the right groin. Examination of the bladder and rectum were negative. On bimanual examination no change was found in the kidney, and no mass. In subsequent examinations the pain and tenderness were most frequently over the region of the appendix. There were no constitutional symptoms. The leucocytosis was normal.

Operation. The appendix was short, atrophied, thickened at its tip, and directed downward and inward into the pelvis. Palpation of the kidney and gallbladder gave negative results. Removal of the appendix. Complete closure. Primary union. Microscopical examination showed a chronic inflammation of the mucosa. There was complete relief from the pain.

GENERAL OBSERVATIONS. This last group of cases showed pathological lesions, which, in the majority of instances were so far advanced that they must have been in existence for a long time before symptoms appeared. Moreover these changes were frequently of a character that are ordinarily associated with serious forms of acute appendicitis and it is difficult to understand why in most of these cases, infection with abscess if not actual gangrene should not have occurred. For purpose of reference the pathological condition and the clinical course may be briefly summarized as follows:

RECAPITULATION.

CASE XXII.—Abscess; appendix thick and friable; several attacks, the most severe two and a half months ago, lasting four days.

CASE XXIII.—Abscess; base of appendix only left; single attack of twenty-four hours' duration, one month before operation.

CASE XXIV.—Appendix in cheesy material, forming an acute angle, enlarged and thickened; several attacks in preceding year, the last one month prior to operation, of two weeks' duration.

CASE XXV.—Appendix retrocaecal, firmly adherent and thick; chronic catarrhal inflammation of all coats; previous history of constipation with very slight attack of pain.

CASE XXVI.—Neoplasm; one recent attack of two days' duration, subsiding; purulent inflammation of the interior of appendix.

CASE XXVII.—Two attacks of short duration; appendix retrocaecal, thick, red, turgid and showed old cicatrices.

CASE XXVIII.—Two moderate attacks of short duration, occurring four and two months ago; retrocaecal appendix, with kink in centre and dilation of the distal portion; considerable inflammation of both parts.

CASE XXIX.—One protracted and one short attack occurring during the past four years; appendix distended with blood, firmly bound down to lateral pelvic wall and intestine.

CASE XXX.—Several slight attacks, separated by intervals of a year; sharp acute angle firmly bound down by adhesions with stricture.

CASE XXXI.—Three slight attacks of pain, not interfering with work; appendix at acute angle, thick and congested, firmly bound down.

CASE XXXII.—Two slight attacks, six and two weeks prior to admission; appendix retrocaecal, adherent, and bent at an acute angle.

CASE XXXIII.—Ten months slight attack without vomiting; appendix fishhook in front of the kidney; greatly thickened and enlarged.

CASE XXXIV.—Three years occasional colicky pains; no attack; retrocaecal appendix; fishhook bend at tip; tightly adherent to wall of cæcum.

CASE XXXV.—Three days ago dull pain; no attack; volvulus of appendix adherent to wall of pelvis; both loops mutually adherent at point of crossing.

CASE XXXVI.—Six years and two months ago mild attacks of appendicitis; appendix adherent to intestine, omentum and wall of pelvis; much thickened and presents signs of old inflammation.

CASE XXXVII.—Six months occasional pain; no attack; appendix firmly bound down in a mass of cicatricial tissue from an old lumbar abscess; mesenteric glands caseous and enlarged.

CASE XXXVIII.—One week ago cramplike pains, varying in position; chronic inflammation of mucosa; atrophied and thickened at tip.

It is difficult to account for the mild character of the symptoms, even when manifested in actual attacks, which were observed in these cases. Such attacks were uniformly of short duration, and in their absence the pain for which the patient desired relief was not always sufficiently severe to interfere with work.

It is also of interest to note the varying type and location of the pain. In 10 Cases (No. XXII, XXVI, XXVIII, XXIX, XXXI, XXXII, XXXIII, XXXIV, XXXV, XXXVI) it may be regarded as fairly typical. In the remainder, atypical as follows. In Case XXIII, over gallbladder and extending along the right side into the testicle. In Case XXIV, pain in epigastrium; in the last attack, in

the left hypochondrium, extending down the left side and across to the right iliac fossa below the level of the umbilicus. In Case XXV, in right iliac fossa, radiating to the liver and cramplike in character. In Case XXX at first both sides, then the right side, and not sufficiently severe to interfere with work. In Case XXXVII, at times over the lower right side, then higher up over the kidney, from which point it radiated to the bladder, the right groin, and the shoulder. At other times it was most marked in the left lower abdomen.

As regards the severity of the pain in six cases (XXIII, XXIV, XXV, XXXVI, XXXVII, XXXIII) severe; medium or moderate in Cases XXII, XXV, XXVII, XXVIII, XXXII, XXXIII; mild in Cases XXIX, XXX, XXXI, XXXIV, and XXXV.

In these cases of chronic appendicitis, operation certainly removed a condition which, undisturbed, might at any time have resulted in a severe suppurative or gangrenous attack. In fact such a termination has not infrequently been observed in patients who, without previous warning, submitted to operation, where abscess, or gangrene, or both had suddenly developed in an appendix that showed one or more of the changes of a previous chronic inflammation, such as has just been described. An example of such an inflammation is Case XX of the acute series, where gangrene invaded the distal extremity of a retrocaecal fishhook appendix. In the absence of catarrhal attacks or local pain, such serious outbreaks can not be prevented, but the frequency with which such primary attacks occur together with the frequency with which chronic conditions peculiarly favorable to the development of subsequent infection and abscess are found, warrant without question the removal of any appendix when warning symptoms, no matter how slight or in what ever way manifested have occurred.

My own preference is to wait for the subsidence of an acute attack, provided it is with reasonable certainty of the catarrhal variety, for, in the interval, the wall of the appendix is less friable and its ligation consequently more secure, while the absence of congestion increases the certainty of primary union. In those exceptional cases resembling acute catarrhal attacks which subside notwithstanding the presence of pus, a delay of operation to the interval period may prove of advantage, in that the virulency of the purulent material may have somewhat decreased. At all events the period of drainage in these cases was considerably less than that ordinarily observed after an operation for a condition of acute suppuration or gangrene. It is, however, not to be denied that operation in the earliest stage of any attack irrespective of its severity, would have removed in this group of cases the source of the trouble, probably before the purulent material had penetrated the wall of the appendix, and that primary union might have been secured, but such an advantage would obtain in only a small proportion of cases and might be outweighed by the detrimental effect occasionally observed when patients are subjected suddenly to laparotomy.

In conclusion, a brief description of the technics of operation in acute and chronic cases is given.

Intermuscular incision (McBurney), the peritonæum being opened parallel to the interval be-

tween the muscles. The wall of the abscess, if present, is carefully protected by pads and ruptured, the pus being sponged out. The appendix is identified and ligated with stout ordinary catgut. If the abscess is completely walled off by adhesions from the general peritoneal cavity, search for the appendix should not entail the rupture of these adhesions, and in such a case the abscess cavity may be drained without the removal of the appendix. The stump of the appendix is then cauterized, either with the Paquelin or with carbolic acid and alcohol. The pelvis is now explored with a clean sponge for any secondary abscess cavities, and the pus, if any exists, is carefully removed. Irrigation of a circumscribed abscess with peroxide, which is immediately removed with a sponge, is occasionally practised. In spreading peritonitis irrigation of at least the lower half of the abdomen with normal salt solution is always indicated.

Drainage with one or two cigarette drains passing through a collar of stiff rubber tube of sufficient length to pass just within the peritoneal cavity is indicated, the rubber tubing holding the muscles apart. In retrocaecal abscesses extending over the kidney, a counter opening is made over the crest of the ileum. In general septic peritonitis, similar drainage is made through an incision in the median line or on the opposite side. Partial closure with chromic gut suture through the different layers of the abdominal wall is then made, leaving sufficient space for the emergence of the drains. In early acute cases drainage with a cigarette drain only may be practised.

The technics in the interval operation is the same up to the exposure and ligation of the appendix. After the division of the appendix between two ligatures and the ligation of its mesentery, the cauterized stump is depressed into the wall of the cæcum, and retained there by a purse string suture of fine ordinary catgut, previously inserted. The abdominal wall is then closed without drainage, chromic gut being used for the peritonæum, the muscle, and the aponeurotic layers, and silk for the skin.

The results have uniformly been satisfactory, and except in some desperate cases of spreading or general peritonitis, recovery has followed. The selected cases in this paper have been taken from a series of between four and five hundred that have occurred in my service at the Presbyterian Hospital, as well as from my own personal practice.

In conclusion, I wish to express my great appreciation of the numerous blood counts and pathological examinations of specimens made by Dr. Thacher and Dr. Tuttle, pathologists of the hospital, as well as by the pathological internes, and my own house staff.

48 WEST THIRTY-SIXTH STREET.

THE TECHNIQUE OF INTRAMUSCULAR INJECTIONS FOR SYPHILIS.

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It is safe to say, in a general way, that the treatment of syphilis by the intramuscular injection of

insoluble mercurials has proved satisfactory and successful in the hands of almost all who have tried it. Its warmest advocates, in fact, are those who have used it most and in severe and intractable cases. And this applies to syphilis of the glands, bones, and internal organs, to the most obstinate and relapsing manifestations of the infection on skin and mucosæ, to the earliest and the latest lesions, as well as to the routine treatment of a regular and mild case. The inquiries that I continually receive, however, show very clearly that there are a number of points in connection with the method that require elucidation. Some practitioners still distrust or fear it, and others again meet with quite unnecessary difficulties in its administration. I shall take up these various points seriatim.

General Considerations.—The fact that the mercury is administered by means of a hypodermic syringe has caused the method to be confounded with the older one of the injection of the soluble compounds of the same drug, and especially of the bichloride. Except in similarity of administration methods they are entirely different. The injection of soluble mercurials, whilst very efficacious, is painful, must be done frequently, and is very liable to be accompanied by undesirable effects—salivation, gastroenteric troubles, etc. The rapid absorption of the drug necessitates its almost daily readministration. I reserve its employment for those rare cases in which the luetic process threatens immediate damage or destruction to important parts or vital organs, and where neither the pain of administration nor the trouble and expense of the treatment nor the possibility of the occurrence of the complications mentioned above can be considered of account.

By the injection of a dose of the insoluble compounds a medicinal depot, as it were, is established in the tissues. The salt is slowly converted into a soluble compound, and gradually absorbed. A single injection, therefore, suffices for a number of days, or even two or three weeks of treatment. The practical advantages of this, where for financial, business, or social reasons very frequent visits are impossible, cannot be overestimated. There are no three times a day pills to be forgotten, or to betray the fact of treatment; the attendant regulates and controls treatment and dosage, and the injections come at about the intervals at which a patient with syphilis should be seen and examined. There is practically no pain from the injections if given properly, and the patients do not object to them as they do to the bichloride. Finally, to merely mention points that I have elaborated elsewhere, the insoluble injections are cleanly and easy as compared with inunctions; they are less liable to have undesirable complications than any other method; they are almost as effective as the bichloride injections, and far more so than the methods by the mouth or by inunction; and with certain precautions they are absolutely safe. I make this last statement on the basis of a daily experience that now extends over many years.

The Injection Fluid.—This, of course, is a suspension and not a solution. When injection of the soluble compounds was first tried watery menstrua of various kinds were employed. The mercurial salts, however, are very heavy, and no matter how rapid the manipulation, it is impossible to keep them in

suspension in such fluids until injected. The addition of glycerin remedied the trouble to some extent; but a small proportion of it did not prevent the rapid settling of the salt, and a larger amount proved too irritating, and had to be abandoned. Recourse was naturally had to oily menstrua. The vegetable oils, though absorbable, were subject to decomposition; the lighter petroleum oils are now universally used. I have found liquid petrolatum to be of about the right consistency for the purpose. It is perfectly bland and nonirritant; it is fluid enough to pass readily through the needle, and yet viscid enough to hold the particles of mercurial salt in perfect suspension for a number of minutes, much longer than the time required for injection. It does not decompose, and it can be sterilized by the ordinary methods.

Of the mercurial salts, I use to-day only the salicylate; and I think it is employed by nine-tenths of those who use these injections. Calomel has been its only serious competitor, and it is still used by some syphilographers. It is, however, liable to be irritant from containing minute amounts of corrosive sublimate as an impurity; it is undoubtedly more liable to cause salivation and mercurial intoxication; and I have found practically that it shows a tendency to form clumps and masses in the suspension that entirely interfere with successful injection. The salicylate is free from all these objections. It is never irritant; it is of all the strong mercurials the least prone to show by effects; and no matter how long the fluid stands, a vigorous shaking is all that is required to obtain perfect suspension again. It contains about 59 per cent. of metallic mercury, and of course only the preparation of some entirely reliable house should be employed.

A 10 per cent. (by weight) suspension of the drug in the menstruum has been found the most convenient proportion to employ. This permits easy regulation of the dosage within the limits required; it forms an emulsion thin enough to flow through the needle; and the amount of injection fluid is small enough to do the least possible amount of injury to the tissues. Each drop contains 0.1 of a grain of the salicylate; ten drops equal one grain of the drug, or half a grain of metallic mercury.

The Syringe.—Any hypodermic syringe may be made to answer the purpose; but it is very convenient to have one especially suited to the injections. If the instrument has been used for the ordinary injections of watery fluids it must be perfectly dry in all its parts before the oily suspension is drawn into it. If this is not seen to, the inevitable presence of droplets of water will contaminate the injection. If the syringe is to be used for water again it must be thoroughly washed out with ether and dried before doing so.

There are other reasons, however, why the ordinary hypodermic syringe is inconvenient. The maximum amount of suspension injected at one time is ten drops; five to seven drops is usually employed. The calibre of the ordinary hypodermic is too large, and its graduation is entirely too coarse to permit of the accurate and rapid estimation of such amounts. It is advantageous, also, to have the instrument heavy, so that the long needle can be thrust with the greatest rapidity through the skin and into the muscular tissues; a slow, pushing introduction is bound to be painful to the patient. The only part of the

syringe that can be readily weighted is the head; and if this is made broad and flat at the same time, it permits the filled and prepared syringe to be stood up safe from contamination whilst the skin is being prepared for the puncture.

Of greater importance, however, is the mode of needle attachment. After plunging the needle in, which must of course be done whilst attached to the syringe, it is always necessary to disconnect the two and to watch the suspension-filled lumen of the needle for a number of seconds, say twenty. This obviates the possibility of the occurrence of the only danger incidental to the method, the injection of the oily suspension into the venous circulation, and the occurrence of embolism of the lungs. The disconnection should never be omitted. For this manipulation the ordinary threaded point is decidedly inconvenient. It takes longer time, and the inevitable motion of the needle point in the tissues causes pain. Hence, syringe and needles should be fitted with slip joints, permitting of instantaneous connection and removal.

The barrel of the syringe should be of glass, as ought to be the case with all hypodermics, so that the fluid introduced may be seen, and the injection of air bubbles avoided. The graduation may be on the barrel or the piston, but it must be distinct enough to permit of drop dosage at least, and this means a small syringe lumen. The rest of the instrument, piston, caps, and head, should be of metal, to give the necessary weight. And here I want to answer a question and meet an objection that I encounter every day. Ought not a mercurial hypodermic to be made entirely of glass or hard rubber? Yes, undoubtedly, when watery solutions of soluble mercurial salts are employed. No, most emphatically, when oily suspensions of the insoluble salts are injected.

The suspension has absolutely no effect at all upon the metal. I have kept the polished metallic parts of my syringe in the suspension for months at a time without even the slightest tarnishing of the bright surface. In fact, it preserves the polished nickel plate, which will tarnish and oxidise in time when exposed to the air, but in the suspension remains as bright as the day that it left the factory. The only object in having the barrel of glass is transparency; metal is the proper material for all the other parts.

The Needle.—This must be long enough to reach through the skin and subcutaneous tissues even of stout people, so that the injection fluid can be deposited in the depths of the gluteal muscles. For thin-flanked individuals with but little subcutaneous fat a three quarter inch needle would be long enough; but stout people with thick layers of fat in the subcutis require one over an inch long. The so called antitoxine size, one and a half inches long, is about right. Where the flanks are well developed it should be plunged in up to the hilt; in thin persons it should be introduced less far. A needle of this size is fairly strong, and its lumen is large enough to permit the suspension to flow freely, and to allow a good, stiff wire to be kept in it. It is well to keep a separate needle for each patient under treatment.

Preparation of the Injection Fluid, Instrument, and Skin.—The injection fluid can be sterilized once

for all, and then requires but little further attention; the suspension is not subject to bacterial growth or decomposition. It can be put in a number of small bottles (the ordinary half ounce vial is a convenient size); several of these, with their corks, are boiled and dried. They are then filled with the suspension, closed with sterilized cotton plugs, and stood up in a vessel filled with warm water up to their necks. The water is gradually brought up to the boiling point and kept there for an hour. The plugs are then replaced by the sterilized corks, tightly closed, and the head of the bottle and the cork dipped into melted paraffin to seal them. They keep indefinitely in this condition. If they remain unused for a long time the salicylate packs on the bottom to some extent, and vigorous shaking is required to bring it all in suspension. Once opened, of course, the suspension should be exposed to the air as little as possible, and always kept tightly corked. Where many injections are given the small bottles do not last long. I have frequently, however, used one for weeks and even months, and have never found resterilisation necessary.

The syringe may be sterilised by removing the oil with ether and alcohol, boiling, and drying. With a proper instrument, however, this need not be done often; and I consider the elaborate and tedious process employed before each injection by some as entirely unnecessary. The solid piston of the syringe which I employ entirely and accurately fills the barrel lumen when closed, and whatever vacant space there is, is filled with a film of sterile oil. If the syringe is carefully wiped with sterile cotton after use and kept in a proper box, and then the tip which enters the needle head, the only portion of the instrument exposed to contamination and in contact with the injection fluid, passed a few times through the alcohol flame, all the necessary precautions have been taken.

Needles are ruined chiefly by oxidation in their lumen, occasioned by the water remaining in them after use. This does not occur with the oil, which in fact acts as a preservative. For obvious reasons, I do not boil my needles. They should be passed two or three times through the flame, not heating them enough to destroy their temper. Used in this way, they last almost indefinitely. I have employed a single needle in many a case for the entire two or three years of treatment.

The skin is prepared in the usual way. I generally scrub with green soap and warm water, and then with alcohol; a pledget of sterile cotton is then placed over the injection site, and held there by the patient until the needle is introduced.

The Site of Injection.—I rarely use any other than the gluteal muscles. Occasionally a hypersensitive patient complains that the slight tension and bruised feeling a day or two after the injection interferes a little with walking or sitting; and I have sometimes then made the next injection in the interscapular muscles. The site is not so good, however, and the patients themselves prefer the gluteal site.

The precise point selected is important. It should be in the center of the gluteal mass, about midway between the intergluteal fold and along the inner third of the region bounded by the intergluteal fold and a perpendicular through the great trochanter on

either side. Near the trochanter there is less muscle mass and more dense fibrous tissues, and the pressure discomforts after injection are greater. The region in which the injection is to be given is shown in the accompanying figure. The area is extensive enough to permit of three or more injections on each side at varying heights, so that it is six to twelve weeks at least before an injection need be made again at any one place. I make the punctures on alternate sides, as indicated in the diagram.

In order to place the injection well in the centre of the muscular mass the puncture should be made at right angles to the most prominent part of the gluteotrochanteric fold, and somewhat from within outwards in direction. Injecting, as I have seen done often, at right angles to the plane of the side of the buttock is not desirable; the suspension is



Sites for the intramuscular injections.

deposited too near the bony, fibrous, and nerve structures. The pain and disability that some observers report are undoubtedly mostly due to the selection of an improper site for making the injection.

I invariably administer the treatment with the patient standing erect, since the gluteal muscles are best massed in this attitude. Besides this the patient cannot see the manipulations, which is a great element in determining the pain caused by the puncture. It also gives you the advantage, in the rare event of having introduced the point of the needle into a vein, of deciding, without consulting the patient, whether to reinsert the needle in another place or not. I almost invariably reinsert it; but it has happened with an especially nervous patient that I have found it advisable to let him go without the dose rather than subject him to renewed puncture.

Mode of Injection.—The injection site having been selected and prepared as described, it is covered with a pledget of sterile cotton which the patient holds in place. The needle is flamed, the suspension is thoroughly shaken up, the syringe filled, and the needle attached. Air bubbles are expelled, and care is taken that the lumen of the needle is well filled with the fluid. I have not found, however, that the accidental injection of a minute air bubble does any harm.

The pledget over the injection site is removed, and the whole area is thoroughly and rapidly

washed with ether: its refrigerant and anæsthetic effect is valuable. The syringe and needle is then plunged very quickly up to the hilt in the gluteal muscles. On the rapidity with which this is done, together with the free use of ether, depends the amount of pain that the puncture will cause. Properly accomplished, it occasions none at all. I do not freeze the part, for the reason that that process causes as much pain as the puncture, and I believe that it favors the occurrence of indurations.

The syringe is now detached from the needle, and the suspension filled proximal end of the latter is carefully watched for a few seconds. If the point of the needle happens to be in a vein, the suspension will very slowly begin to well out of it; and if the vessel is a larger one, it will be followed by a drop of blood. The needle must then be withdrawn, and another puncture made, or the injection postponed. The precaution, however, must never be neglected. Oozing of blood after the injection is completed, showing that a vein has been traversed by the needle, does no harm at all.

The implantation being found safe, the syringe is reapplied to the needle and the desired amount of suspension is injected. This should be done very slowly. The needle is then withdrawn as quickly as it was introduced, and the cutaneous orifice immediately closed with a pledget of cotton. A small piece of sterile zinc oxide plaster is then applied, to remain in place for a day, and the injection is completed.

When everything is prepared for the injection the entire procedure takes about one minute. There is a certain amount of dexterity and rapidity in manipulation that is only attainable, of course, by practice; but a little attention to the details here given will enable anyone to perform the manipulation safely and without pain.

144 WEST FORTY-EIGHTH STREET.

THUMB SUCKING.

By GERALD BERTRAM WEBB, M. D.

COLORADO SPRINGS, COLO.

Having unsuccessfully tried all suggestions to prevent thumb sucking in an infant of two months, the device portrayed in the accompanying cut occurred to me and proved most successful.

Taking an appropriately sized thin rubber ball, an oval hole is cut to loosely fit the wrist, and the surface ventilated by very numerous punches with a stable harness punch. A cheese cloth bag—in one cut shown inverted—is sewed on to the oval hole, and a tape run in and out of the cloth at this aperture, which can be gently tied at the wrist.

A woollen mitten can be worn within this if required for cold weather. Several sizes have to be made at intervals of two months, to allow for growth. For half hour night and morning these are removed and the child taught gradually to pat-a-cake and play with her own hands.

After four months the child will be completely broken of the habit, but still must wear them at night as a precautionary measure. The manifold

advantages of such a method are obvious, as the child can exercise and develop all its hand and forearm muscles.



FIG. 1.

Dentists and nose specialists alone know the dangers of thumb sucking habits, which, one re-

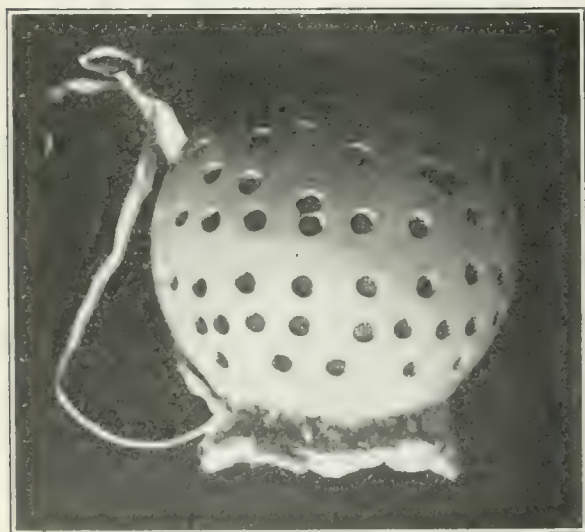


FIG. 2.

grets, are encouraged by many physicians and nurses. The same device should be most valuable in nail biting, scratching, and other foibles.

Therapeutical Notes.

Pills for Hepatitis:

- R Resinæ podophylli,1 gramme;
Alois,4 grammes;
Tragacanthæ,2 grammes.
Divide in forty pills. Dose, one to four pills.

Bulletin général de thérapeutique, March 23, 1906.

For Night Terrors in Children:

- R Potassii bromidi,0.5 gramme;
Tinct. hyoscyami,gtt \times ;
Syrupi simp.,15 grammes;
Aquæ,10 grammes.

- M. To be taken in a single dose on going to bed.

Journal de médecine de Paris, April 22, 1906.

Intravenous Injections for Rheumatic Iritis.—

A. Darier (*La Semaine médicale*) recommends that two to three c.c. of the following solution be injected into the median cephalic vein once a day, or four to six c.c. three times a week:

- R Sodii salicylatis,5 grammes;
Caffeinæ,0.50 gramme;
Aquæ destillatæ,25 grammes.

- M. Ft. solution, for intravenous injection.

Hypodermic Treatment of Constipation.—

Combemale, in *Le Progrès médical*, May 5, 1906, prescribes:

- R Apocodeinæ hydrochloridi,0.50 gramme;
Aqua destillatæ (recentis),50 grammes.

- M. Ft. solution. Inject two c.c. (M. xxx) daily.

Subcutaneous injections of magnesia sulphate were used in the treatment of constipation among the insane by George H. Rohé, of Baltimore.

How the Arabs Prepare a Dose of Castor Oil.

—The *Journal de médecine de Paris* states that the Arabs when they wish to take castor oil, drop from fifteen to twenty grammes of oil into a glass of milk. This is placed upon a stove and heated, while being stirred with a spoon. In a few minutes a perfect emulsion is formed, and to this a generous quantity of the syrup of orange flowers is added. Administered in this manner the oil is more active, fifteen to twenty grammes being usually sufficient for an adult.

Treatment of Insomnia.—Pocquillon-Simonin, in *Le Progrès médical*, May 5, 1906, gives the following potion at night, half or quarter of an hour before retiring:

- R Sulphonethylmethani,1 gramme;
Ol. amygdalæ dulcis,20 grammes;
Sacchari,9 grammes;
Aquæ aurantii florum,10 grammes;
Aquæ laurocerasi,2 grammes;
Tragacanthæ, {āā 0.20 gramme.
Acaciæ, }

- M. Shake well before taking, as a sleeping potion.

The same agent may be given by rectal injection as follows:

- R Sulphonethylmethani,0.50 gramme;
Vitelli ovi,No. 1;
Aquæ,250 grammes.

- M. For an enema, at night.

Treatment of Blepharitis.—Galezowski prescribes for ciliary blepharitis frequent fermentations with water containing boric acid. In the morning the borders of the eyelids are to be carefully cleansed (*Journal de médecine*, May 13, 1906). Avulsion of the cilia pointing towards the cornea

should be practiced. Any collections of pus at the bases of the cilia should be evacuated with a cataract needle. An ointment, consisting of iodoform (twenty per cent.), or red mercuric oxide (two to five per cent.), should be applied with a pencil to the eyelids at night:

R Hydrarg. oxid. rubri, 0.10 gramme;
Plumbi acetatis, 5 grammes;
Adipis, 5 grammes;
Ol. amygdalæ dulcis, 5 gtt.

M.

Serum Therapeutics in Typhoid Fever.—Josias, of Paris, has used for the last four years in the Hôpital Bretonneau the serum of Chantemesse, in combination with cold immersions. The mortality rate under this treatment was in 200 cases 3.8 per cent., while formerly the proportion reached ten to twelve per cent. The mortality rate of the other hospitals of Paris was during the same time in 1,031 cases 12.6 per cent. The recurrence was less numerous and not severe. Josias therefore comes to the conclusion that the antityphoid serum of Chantemesse is not dangerous, and that it improves the treatment of immersion only, especially if it is used in early cases. Report of the Académie de médecine.

Freckle and Moth Lotion.—One of the most effective preparations of this kind, as well adapted for the removal of pimples as for beautifying the complexion, is the following:

Acid nitric, dil. 5ij
Alcoholis 5iij
Ext. rosæ alb. 3ss
Ol. neroli mx
M. et. adde.
Hydrogen. dioxid. 5ij
Glycerin 5iij
Liquor. coccol 5j s.
Aqua ad 3xl

The mixture should be allowed to stand for three weeks before filtering and bottling. For use the following directions should be printed on the label: "Wet a piece of soft cloth with the lotion and apply to the face, neck, arms, and hands each time after washing, then dry." Other freckle lotions and complexion bleaches are represented by the following formulas:

I.
Zinci oxid. 3j
Calamin 3j
Hydrarg. ammon. chlor. gr. xv
Glycerin 5ij
Aq. rosæ ad. 3vj

II.
Zinc sulphocarbolate 3j
Glycerin 5iij
Alcohol 5ij
Rose water 3x

III.
Zinc oxide 5iij
Bismuth subiodide gr. xxx
Dextrin 5iiss
Glycerin 3iij

Nos. 1 and 2 are to be used as a wash night and morning, while the face is to be anointed at night and washed off in the morning with No. 3. Buttermilk or sour milk was considered an effective complexion wash in days gone by, but in these modern times the chemist's substitute for buttermilk is employed in a preparation containing lactic acid, as represented by the following formula,

for which we are indebted to "Pharmaceutical Formulas."

IV.

Acid. lactic. 10 per cent. 5ij
Glycerin 5j
Ess. rosæ alb. 3iiss
Tinct. benzoin 3j
Aqua ad 3vj

Mix the acid and glycerin with the water and add the rose extract and tincture, previously mixed. From the same source we take an alkaline lotion, which is intended to be applied to the face with a piece of soft cloth twice daily:

V.

Potass. carbonat 5jss
Potass. 5ss
Aq. coloniensis 3iiss
Aq. rosæ ad. 3xviij

Dissolve and after two days filter.

American Druggist, June 11, 1906.

Enemata of Cod Liver Oil.—This new procedure consists in administering enemata of the oil in the form of an emulsion. That the oil is absorbed is proved by the gradual increase in weight and improvement in the condition of patients under this treatment. Dr. Revilliod, who first proposed this method, uses the following emulsion:

R Cod liver oil, 600 grammes;
Yolk of egg, No. 2,
Lime water, 400 grammes.

At first 60 to 70 grammes are injected, later this amount is gradually increased to 100, 150, and sometimes even to 200 grammes. The enema should be retained all night. Before beginning treatment the bowels should be thoroughly cleansed with an ordinary enema. The emulsion is administered by means of a syringe to the nozzle of which a soft rubber catheter has been attached. This latter is introduced into the rectum, very gently, for at least 15 centimetres, while the patient lies on the side. After the enema has been given the patient resumes the dorsal decubitus.—*Revue de pharmacologie médicale*, through *La Tribune médicale*.

Hæmoptysis Treated with Amyl Nitrite.—F. Hare, in 1904, first used inhalations of amyl nitrite in the treatment of hæmoptysis, and found that five drops were usually sufficient to check the bleeding almost immediately. Rouget and Lemoine, the following year, report cases of similar character, confirming the results of Hare. Soulier A. Pic and Petit-Jean have more recently reported to the Société des médecins des hôpitaux, of Lyons, four cases of pulmonary tuberculosis with hæmoptysis in which the inhalations of amyl nitrite were very prompt and efficacious in checking the hæmorrhage. (Dose. gtt. iii-vi.) The latter authors explain the action of the remedy by assuming a contrary effect upon the pulmonary circulation to that upon the general circulation, and consider it probable that if the amyl nitrite is really a pulmonary hæmostatic, it is because it acts as a vasodilator for the periphery, and on the contrary, as a vasoconstrictor for the lung. Whatever may be the explanation, however, the clinical results remain, and they justify the classing of amyl nitrite in the first rank of remedies for hæmoptysis.—*Revue française de médecine et de chirurgie*, 1906, No. 9.

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FOURTH OF JULY INJURIES.

The senseless custom of celebrating Independence Day with the utmost possible din shows no signs of abatement, and we see no warrant for hoping that this year indulgent parents will stint their offspring in the matter of material for murdering sleep and for maiming themselves. It is announced annually that the police are going to take measures to moderate the nuisance, but nothing occurs to restrain the careless youngsters. Apparently the police are so engrossed in suppressing (or "regulating") vice that they can pay but little attention to misdemeanors. And the sanitary officials seem not to sniff any glory for themselves in attempts to curb the pandemonium that racks the sick and robs infants of sleep. There appears to be no hope of escape from the barbarism of din save in a general condemnation of it, and of that there is no present indication.

But the "blows of sound" are not all that result from the small boy's celebration, as our readers do not need to be told, for they know that grievous wounds are numerous and that tetanus is by no means an infrequent sequel. Though the average boy is not overscrupulous in placing his explosives, it is usually himself that he hurts, and generally in the hand, thanks to the toy pistol. As regards the mere mechanical injury, the ultimate results are not apt to be very destructive, for the hand, especially that of a youngster, has wonderful recuperative powers, and conservatism has become a watchword with us in the surgery of that member.

But tetanus often sets in unless special measures are taken to prevent it. The cure of tetanus is not yet easy of accomplishment. Fortunately, however, its prevention seems to be reasonably practicable. The antitetanic serum may have failed to reduce substantially the mortality of the established disease, but it does appear capable of real service as a prophylactic. Let every practitioner, then, supply himself with a stock of the serum for use on the Fourth of July. Probably it would be well to employ it in a routine manner in all cases of injury with the toy pistol. The topical application of the dried serum seems to promise much in the way of prophylaxis.

HEPATIC INSUFFICIENCY AND PUERPERAL ECLAMPSIA.

The attention of the profession has until recently been so persistently directed to the kidneys and to the urine as an index of their functional integrity during the later months of pregnancy that they have naturally come to be regarded as the principal ætiological factor in puerperal eclampsia. The same influences, however, which are capable of producing inflammatory or degenerative changes in the renal parenchyma are manifestly competent to produce pathological conditions in other important organs.

At the recent Congrès des sociétés savantes, in the Medical Section, M. Butte (*Bulletin médical*, May 2nd) directed renewed attention to the part played by the liver in evoking eclamptic attacks. Studies of the chemical condition of the blood in cases of convulsions during pregnancy had revealed the interesting observation that, in the fatal cases, the proportion of urea in the blood was about normal, whereas in cases of recovery the proportion was double that observed in a physiological condition. This apparent paradox is explained by the part played by the liver. In the fatal cases the hepatic changes, which are very marked in cases of eclampsia, are so intense that they render the liver incapable of forming urea in as large a quantity as in the normal state, so that, even though the kidneys do excrete only a small quantity of this substance, the liver does not form it in a proportion sufficiently large to cause it to be found in excess in the liquor sanguinis.

On the contrary, in cases terminating in recovery the alterations in the liver are less intense, and the urea continues to be formed normally, but accumulates in the blood on account of the poor functional activity on the part of the kidney. From this a practical point in prognosis is suggested by Butte, who concludes that when, in a

case of eclampsia, the quantity of urea in the blood is two or three times greater than in the normal state, recovery is probable, whereas a fatal termination is almost certain when the quantity of urea in the blood is very near to the physiological amount. From this point of view, it would appear that microscopical findings in the urine may be of subordinate importance when compared with the results of chemical analysis of the blood.

THE INFECTIOUS ORIGIN OF DIABETES.

Experiments made by Charrin, de Topfer, and others, confirmed also by clinical observation, tend to demonstrate, in the mind of F. Déléage, of Vichy (*Journal de médecine de Bordeaux*, May 20th), that endogenous infective agents of intestinal origin, penetrating the pancreatic duct, may provoke glycosuria and diabetes. Moreover, certain digestive troubles, especially among gross feeders and if accompanied by abnormal fermentation, may determine a congestion of the liver with lesions of the hepatic cells. In the first case there is hyperactivity; in the second, on the contrary, there is functional insufficiency of the organ. The consequence of either is often a glycosuria (glycæmia primarily) which, by continuing, may become a true diabetes mellitus. There may exist, therefore, as in the case of infection through the pancreatic duct, a diabetes due to gastrointestinal infection.

The possibility of the occurrence of infectious diabetes must therefore be acknowledged. But a disease may be infectious without being contagious. The idea of contagion implies the existence of a specific exogenous, microbial infectious agent. The demonstration, however, of such a specific germ for diabetes has not yet been made. The hypothesis of the contagiousness of diabetes is opposed by clinical experience, which shows that the number of cases occurring among persons constantly associated with each other is very small when compared with the member of isolated cases. For instance, Déléage observed, among 600 patients, 510, or eighty-five per cent., who were or had been married. Among these, there were only eighteen who had "associated diabetes"; that is to say, only nine patients whose diabetes we might attribute to contagion. This is a very small proportion, too small to give support to the theory of the contagious nature of diabetes. In cases of household, or familial, diabetes, it is not rational to assume the existence of contagion to explain the coincidence in two persons having the same predispositions and exposed to the same conditions of life, having the same tastes, and probably ad-

dicted to the excessive use of sugar or confectionery. If infection exists, it is of endogenous, or autochthonous, origin, arising in the digestive tract.

"PITHIATISM."

In spite of the numerous treatises which have been written on the subject of hysteria, there is still lacking an agreement as to what actually constitutes this disease, and authors have not yet formulated for it a precise definition. Indeed, some have hopelessly abandoned the attempt, apparently accepting as final the conclusion of Lasègue that "the definition of hysteria never has been given and never will be given."

In a recent clinical lecture at the Hôpital de la pitié, J. Babinski essays to frame a comprehensive definition of hysteria, one which has the merit of novelty and perhaps fulfils the requirements. If we seek for the peculiarity of hysteria, according to Babinski, we shall find it in the fact that its manifestations are capable of being reproduced by suggestion in certain subjects, and can be made to disappear under the exclusive influence of suggestion (or persuasion, as he prefers to call its therapeutic application). He declares that all the major phenomena of hysteria may be elicited by suggestion in certain subjects, especially among the hypnotics, and it is impossible to distinguish hysterical troubles from those which have been created by experimental suggestion. From this is derived the conclusion that such phenomena really result from autosuggestion. On the contrary, nonhysterical phenomena cannot be precisely reproduced by suggestion; an imitation may be obtained, but it will be imperfect and easy to distinguish from the original. Moreover, there is not a single nervous affection well defined and situated beyond the limits of hysteria of which psychotherapy alone is capable of causing the disappearance. Babinski recognizes a primary group and a secondary group of hysterical phenomena. To the latter belongs, for instance, muscular atrophy, which is never of primary occurrence; suggestion cannot produce it, but it is associated with hysterical paralysis or contracture (which it never precedes), and it disappears spontaneously when the muscle resumes its normal function.

The definition offered by Babinski is as follows: "Hysteria is a condition of the body which renders the subject thereof capable of autosuggestion. It manifests itself principally by primitive phenomena and occasionally by accessory or secondary troubles. The special characteristic of the primitive manifestations is that they are capable of being reproduced with rigor-

ous exactitude by suggestion in certain subjects and can be made to disappear under the exclusive influence of persuasion. The special characteristic of the secondary hysterical manifestations is that they are strictly subordinated to the primitive troubles" (*Quinzaine thérapeutique*, April 10th).

This definition, from a nosographical standpoint, may be accepted because it is distinctive, and among mental and neuropathic affections there is no other of which the lineaments can be traced so clearly. It is noteworthy that, thus defined, hysteria is a form of mental disease. It is of the greatest practical importance to recognize this ætiology in treatment, because an hysterical disorder may be cured rapidly or instantaneously under the influence of hypnotic suggestion. On the contrary, if not recognized and treated skilfully, it may continue for years, or for a lifetime. The word "pithiatism" (from *πειθεῖν*, to persuade, and *ιαρός*, curative), is submitted by Babinski as the scientific term for the disease which is curable by persuasion, and "pithiatic" as a substitute for hysterical.

EXPERIMENTAL MYOCARDITIS.

Pearce continues his communications upon the effects of various toxines upon animal tissues by describing some experiments concerning the action of adrenalin upon the myocardium (*Journal of Experimental Medicine*, viii, 3). His observations in this immediate direction were begun after Dr. Stanton and he had noticed certain interstitial cardiac changes when aortic lesions were produced experimentally with adrenalin.

Some of the rabbits in this series died after a very few injections (one to five) of the adrenalin, which was given into the ear vein in doses beginning with 0.1 c.c. of a 1 to 1,000 solution and advancing to 0.5 c.c. Post mortems of these animals showed the heart to be dilated and flaccid macroscopically. Histologically, the hearts of the animals which had received one or two inoculations showed general œdema, which in some places was distinctly circumscribed. There were, besides, fragmentation and some slight granular degeneration of the muscle fibres. In the myocardium of those animals that had received four or five injections the foregoing process was more marked, and there was present, moreover, "a severe hyaline and granular transformation with more or less necrosis and disorganization." These processes affected not only the heart wall itself, but also the papillary muscles.

In the hearts of those rabbits which survived the injections, and were killed at the expiration

of various periods thereafter, more or less clearly defined interstitial changes were seen. This overgrowth was particularly noticeable at the foci of parenchymatous degeneration, i. e., about the hyaline and granular fibres. It could also be seen between the necrosed fibres throughout the muscle substance. In some places a few connective tissue cells were to be seen in excess of the normal.

Pearce explains the production of this fibrous myocarditis as the result of the constricting effect of the adrenalin upon the vascular system, in this case affecting chiefly the coronaries, with consequent ischæmia of the portion of the wall supplied, combined with the extra effort on the part of the heart to supply the vascular system with blood in the face of its heightened tension. The effect upon the heart muscle is partly physiological and partly mechanical in character. Pearce disregards the possibility of the dependence of these lesions upon toxic action alone, since other tissues participated in so trifling a degree; or that the muscular changes could be due to aortic intimal or medial lesions primarily, probably directly affecting the coronary arteries, because the large vessel was affected in only a very small number of cases.

This work, when taken into consideration with the author's previous observations upon liver cirrhosis and arteriosclerosis, strengthens the view that the various cirrhoses are replacement fibroses, a stand taken by Kretz, Thoma, Kelly, and others. Especially with regard to those chronic affections which we style "toxic" in origin does this view seem tenable. In regard to the heart, it may be that by one or another cause the tone of the vascular system is subjected to certain conditions which produce sudden, perhaps pronounced changes whereby overwork of the heart is necessitated and whereby the normal systolic ischæmia remains during diastole, a result of the same cause which was responsible for the heightened blood pressure. Such an action need not be continuous, for periodic vascular spasms certainly have the same effect. Whatever may be the mode of action and effect of the ætiological agent, the primary parenchymatous change seems to play an important rôle in the production of all fibroses.

THE MEDICAL DIRECTORY OF NEW YORK AND ITS VICINITY.

The *Medical Directory of New York, New Jersey, and Connecticut* is a very useful little book, but it might be made much more satisfactory than it is at present. One of our readers informs us that

he lately took it into his head to enter in his copy of the book the changes of address that had come to his knowledge since the current volume was issued, early last October, and to erase the names of decedents. To his astonishment, he found that the names of about four fifths of those who had died were not given in the directory. He found also that his own change of address had not been inserted, though he had given notice of it in July, while the book did give certain other changes of address which had not been otherwise proclaimed until September. The first of these defects is doubtless owing to the remissness of members of the profession in furnishing the editor with the necessary data, and we would urge upon those who are still delinquent the desirability of mending their ways. The second defect can hardly be ascribed to anybody else than the compilers of the directory, and the same may be said of the fact that the degrees of many physicians are recorded as having emanated from institutions that are not indicated by names sufficiently distinctive. These faults ought to be corrected in the forthcoming volume.

THE TORONTO MEETING OF THE BRITISH MEDICAL ASSOCIATION.

We may be sure that this meeting, which is to be held in August, will be satisfactory to the Association and creditable to our Canadian brethren. Our excellent Toronto contemporary the *Canadian Journal of Medicine and Surgery*, devotes almost the whole of its July number to the affairs of the association, and especially to matters connected with the approaching meeting. The number teems with handsome and appropriate illustrations, including many portraits and views of a number of the medical institutions of Toronto.

Toronto is an attractive city, easy of access from this part of the United States. Moreover, there is many a good fellow among its doctors. It will not be astonishing, therefore, if many of the physicians of our own country take pains to attend the meeting. We are sure that they will be welcomed by their Canadian brethren and that they will find the occasion both pleasant and profitable. This will be the second meeting of the association to be held in Canada, the first having taken place in Montreal a very few years since. Those of us who were present at the Montreal meeting cherish pleasant memories of it, and the satisfactory character of that meeting could not be better attested than by the association's decision to hold another meeting in Canada within so short a time. We look to see Toronto repeat the triumph of Montreal.

News Items.

NEW YORK CITY AND STATE

Personal. Dr. Joseph W. Moore, of Chicago, N. Y., is expected to arrive in New York City on the 1st of July.

Sailed for Europe.—Mr. A. R. Elliott, who with Mrs. Elliott sailed on June 7th for Europe, on the French line steamer *Le Touraine*, has with him the following named medical men on board: Dr. Charles Vigué, Paris; Dr. Willis G. McDonald and Dr. A. B. Van Loom, Albany, N. Y.; Dr. C. L. Witbeck, Cohoes, N. Y., and Dr. J. D. de Chantreau, of San Francisco.

The Centennial of the Medical Society of the County of Oneida, N. Y., will be celebrated at Utica, on Tuesday, June 12th. The program will be as follows: Dr. J. H. Smith Baker, and Dr. William M. Gibson and Dr. James H. Glass will read papers. In the evening there will be a banquet. The committee of arrangements is made up as follows: Dr. F. H. Peck, chairman; Dr. H. G. Jones, Dr. C. A. Frost, Dr. James H. Glass, Dr. E. D. Fuller, Dr. F. D. Crim, Dr. Charles E. Smith, of Whitesboro, Dr. W. B. Roemer, Dr. F. J. Douglas, Dr. Charles Bernstein, of Rome, Dr. T. Z. Jones, of Waterville, Dr. F. M. Miller, Dr. Harold L. Palmer, Utica State Hospital, Dr. H. L. Borland, of Camden, Dr. E. M. Hyland, Dr. H. F. Hubbard, of Rome.

The College of Medicine, Syracuse University.—At the annual meeting of the faculty of the college, held on June 12th, changes in the faculty were adopted as follows: One of the most important of these changes is the resignation of Dr. John Van Duyn as professor of surgery. He is succeeded by Dr. D. M. Totman, who has been professor of clinical surgery. Dr. Totman's work is taken up by Dr. George M. Price in addition to that already carried on by the latter. Dr. Van Duyn's resignation from the more active position was received with regret and a committee was appointed to frame resolutions of regret and appreciation. Dr. Van Duyn will continue on the faculty as professor of the history of medicine, a new position. Dr. F. W. Sears becomes a lecturer on clinical gynecology. Dr. F. W. Marlow, professor of ophthalmology, is made librarian and Miss Marian D. Maltbie is made assistant secretary and assistant librarian to assist Miss Barker and Miss Bond. Among the younger doctors added to the faculty are Dr. Jacob J. Levy, Dr. Francis A. Hulst, Dr. George H. Rockwell, Dr. S. B. Craton, Dr. J. H. Kevand, and Dr. Charles D. Post. Several lecturers are advanced to associate professors and some instructors are made lecturers. The faculty is considerably enlarged, the new members becoming instructors.

Lake Keuka (N. Y.) Medical and Surgical Association.—The annual meeting will be held at Keuka Springs, Lake Keuka, on July 5, 6, and 7, 1906. The following programme has been prepared for the occasion: The Medical Study and Care of Inebriety, Dr. T. D. Crothers, Hartford, Conn.; Alcoholic Insanity, Rev. G. B. Cutten, Corning, N. Y.; discussion opened by Dr. E. H. Howard, Rochester State Hospital; Typhoid Fever, Dr. F. J. Bowen, Mt. Morris, N. Y.; Diet in Typhoid Fever, Dr. G. W. Sargent, Seneca Castle, N. Y.; discussion opened by Dr. H. D. Wey, Elmira, N. Y.; title to be announced, Dr. J. F. W. Whitbeck, Rochester, N. Y.; The Repair of the Perineum, Dr. A. L. Beahan, Canandaigua, N. Y.; discussion opened by Dr. J. F. Myers, Sodus, N. Y.; Appendicitis, Dr. J. F. Barnes, Watkins, N. Y.; discussion opened by Dr. H. P. Jack, Canisteo, N. Y.; The Clinical Aspect of Epidemic Cerebrospinal Meningitis, Dr. Henry L. Elsner, Syracuse, N. Y.; discussion opened by Dr. W. J. Herriman, Rochester, N. Y.; Hydrophobia, Dr. H. S. Benham, Honeoye Falls, N. Y.; discussion opened by Dr. T. A. Morrissey, Lima, N. Y.; Discouragements and Encouragements of the Medical Profession, Dr. C. M. Brasted, Hornell, N. Y.; Rheumatism, Dr. C. L. Stiles, Owego, N. Y.; The General Principles of Surgery from the Standpoint of Internal Medicine, Dr. A. L. Benedict, Buffalo, N. Y.; discussion opened by Dr. F. A. Wicker, Livonia, N. Y.; Some Abdominal Symptoms that Make Diagnosis Difficult, Dr. A. M. Mead, Victor, N. Y.; discussion opened by Dr. C. D. McCarthy, Geneva, N. Y.; Surgery Outside the Hospital, Dr. John L. Hazen, Brockport, N. Y.; discussion opened by Dr. C. H.

Towlerton, Lyons, N. Y.; A Consideration of the Nontuberculous Diseases of the Spine, Dr. Joel E. Goldthwait, Boston, Mass.; discussion opened by Dr. R. R. Fitch, Rochester, N. Y.; The Byrne Operation for Cancer of the Uterus, Dr. X. O. Werder, Pittsburgh, Pa.; discussion opened by Dr. E. M. Moore, Rochester, N. Y.; Pneumonia, Dr. H. T. Dunbar, Candor, N. Y.; discussion opened by Dr. W. E. Lauderdale, Geneseo, N. Y.; Climatic and Sanatorial Treatment of Pulmonary Tuberculosis, Dr. J. A. Conway, Rexville, N. Y.; discussion opened by Dr. F. R. Driesbach, Dansville, N. Y.; Empyema of the Frontal Sinus, Dr. Philip Conboy, Rochester, N. Y.; discussion opened by Dr. B. A. Barney, Hornell, N. Y.; Pernicious Anæmia, Dr. W. B. Clapper, Victor, N. Y.; discussion opened by Dr. O. J. Hallenbeck, Canandaigua, N. Y.; Senile Gangrene, Dr. W. A. Howe, Phelps, N. Y.; discussion opened by Dr. C. S. Parkhill, Hornell, N. Y.; Surgery of the Thyroid Gland, Dr. G. W. Crile, Cleveland, Ohio; discussion opened by Dr. A. W. Booth, Elmira, N. Y.; The Indication for Surgical Intervention in Diseases of the Stomach, Dr. Joseph A. Blake, New York; discussion opened by Dr. J. E. Walker, Hornell, N. Y.; Paper unannounced, Dr. Brandreth Symonds, Medical Director of Mutual Life Insurance Company, New York; discussion opened by Dr. W. A. Oliver, Penn Yan, N. Y.; Business Methods in the Medical Profession, Dr. E. H. Hutton, Corning, N. Y.; discussion opened by Dr. F. W. Lester, Seneca Falls, N. Y.; Ulcerative Endocarditis, Dr. Weldon K. McGowan, Conesus, N. Y.; discussion opened by Dr. P. L. Alden, Hammondspott, N. Y.; Hernia Operations, Dr. M. L. Bennett, Watkins, N. Y.; discussion opened by Dr. H. J. Wynkoop, Bath, N. Y.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Health Department, for the following statement of new cases and deaths reported for the two weeks ending June 23, 1906:

| | June 23. | | June 16. | |
|-------------------------------|----------|---------|----------|---------|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever..... | 33 | 2 | 38 | 6 |
| Smallpox..... | 4 | .. | 4 | .. |
| Scarlet fever..... | 110 | .. | 108 | .. |
| Measles..... | 611 | 20 | 669 | 30 |
| Scarlet fever..... | 160 | 4 | 133 | 10 |
| Whooping cough..... | 55 | 4 | 58 | 3 |
| Diphtheria..... | 288 | 16 | 297 | 26 |
| Tuberculosis, pulmonalis..... | 396 | 177 | 416 | 157 |
| Cerebrospinal meningitis..... | 8 | 9 | 14 | 14 |
| Totals..... | 1,645 | 232 | 1,737 | 246 |

PHILADELPHIA AND THE MIDDLE STATES.

A Gift to the German Hospital of Philadelphia.—A gift of \$5,000 was received recently by Edmund R. Teubner, the treasurer of the German Hospital, from an anonymous donor for a free bed in that institution, to be known as the "Hermann Hessenbruch Free Bed."

Additions to Philadelphia Hospitals.—The Medicochirurgical Hospital is to be enlarged by the addition of a six story brick and stone building at Eighteenth and Cherry Streets. Plans are preparing for alterations and additions to the mission building of the Episcopal Hospital at Front Street and Lehigh Avenue.

Personal.—After a series of dinners and other entertainments in their honor, Dr. Charles A. Ballance, of St. Thomas' Hospital, London, and his brother, Dr. Hamilton Ballance, of Norwich, England, left Philadelphia for home on June 15th. They had been guests of Dr. W. W. Keen and Dr. Robert LeConte.

Dr. Boardman Reed, of Philadelphia, has given up his practice and has, with his family, gone to Alhambra, a suburb of Los Angeles, California, where he intends to make his home.

A Dinner in Honor of Dr. P. A. Johnson.—The staff of the Douglass Memorial Hospital, of Philadelphia, gave a dinner and reception on June 15th, in honor of Dr. P. A. Johnson, of New York city, chairman of the executive committee of the National Association of Physicians, Surgeons, Dentists, and Pharmacists. Dr. N. Mossell was toastmaster, and toasts were responded to by Dr. William A. Sinclair, Dr. J. Q. McDougald, Dr. R. W. Bailey, Dr. J. S. Lennon. Mr. Harry W. Bass spoke upon Our Lawyers, Bishop L. J. Coppin upon Our Clergy, and Dr. Johnson upon Our National Association.

The American Oncological Hospital of Philadelphia.—The first annual report of this hospital shows the work that has been done in the study and treatment of cancer in the

institution at Forty-fifth and Chestnut Streets. The need of such a hospital is set forth in the statement of the president, George H. Stuart, Jr., and the demand for treatment has already taxed the capacity of the building. The expenditures were \$11,101.40, and the receipts from all sources, including the State appropriation, were \$10,105.39, leaving a deficit of \$996.01. During the year 106 patients were admitted. Of these 45 were cured, 12 improved, and 11 died. Only five were discharged as unimproved.

Health of Philadelphia.—During the week ending June 6th, the following cases of transmissible diseases were reported to the bureau of health:

| | Cases. | Deaths. |
|--------------------------------|--------|---------|
| Typhoid fever..... | 161 | 16 |
| Scarlet fever..... | 21 | 0 |
| Chickenpox..... | 30 | 0 |
| Diphtheria..... | 52 | 5 |
| Cerebrospinal meningitis..... | 5 | 2 |
| Measles..... | 134 | 4 |
| Whooping cough..... | 93 | 9 |
| Tuberculosis of the lungs..... | 82 | 55 |
| Pneumonia..... | 20 | 15 |
| Erysipelas..... | 5 | 2 |
| Paratyphoid fever..... | 1 | 2 |
| German measles..... | 3 | 0 |
| Tetanus..... | 3 | 1 |
| Mumps..... | 7 | 0 |
| Cancer..... | 16 | 25 |

The following deaths were recorded from other transmissible diseases: Tuberculosis, other than tuberculosis of the lungs, 8; diarrhoea and enteritis, under two years of age, 34; dysentery, 1. The total deaths numbered 414, in an estimated population of 1,469,126, corresponding to an annual death rate of 14.65 in 1,000 of population. The total infant mortality was 117; under 1 year of age, 100; between 1 and 2 years of age, 17. There were 36 stillbirths, 19 males and 17 females. The temperature was slightly above normal, the relative humidity rose at the end of the week, and 3.26 inches of rain fell.

BOSTON AND NEW ENGLAND.

The Woonsocket District (R. I.) Medical Society.—At a meeting of this society held on Thursday, June 22nd, a paper on Contagion and Contagious Diseases was read by Dr. Charles V. Chapin, superintendent of health of the city of Providence.

The Outing Club of the American Medical Association.—Over fifty members of the club made a nine days' tour of New Brunswick, Nova Scotia, Maine, and New Hampshire, after the Boston meeting, and report a very enjoyable time. St. John, New Brunswick, Digby, Nova Scotia, Bar Harbor, Maine, and Portsmouth, New Hampshire, were among the places visited.

Honorary Degrees Conferred by Yale College.—At the commencement exercises, held at New Haven, on Wednesday, June 27th, honorary degrees were conferred as follows: Doctor of Laws, Dr. William W. Keen, of Philadelphia; Doctors of Science, Dr. Francis Bacon, of New Haven, and Dr. Henry H. Donaldson, head of the department of neurology, Wistar Institute, Philadelphia.

BALTIMORE AND THE SOUTH.

The Floyd County (Ga.) Medical Society.—The programme for a meeting held at Rome, on Saturday, June 23rd, consisted of reports of clinical cases.

The Cabell County (W. Va.) Medical Society.—At the last meeting, held on June 14th, the society adjourned until October.

The West Virginia State Medical Association held its annual meeting at Webster Springs, on June 20, 21, and 22, 1906. The election of officers resulted as follows: President, Dr. W. W. Golden, of Elkins; vice-president, Dr. V. B. Churchman, of Charleston; treasurer, Dr. T. L. Barber, of Charleston; secretary, Dr. T. W. Moore, of Huntington. The association decided to publish a bimonthly bulletin instead of a volume of transactions.

The Mississippi Medical College, of Meridian, will open the session of 1906-1907, October 1, in the new college building now in course of construction. The faculty is composed of the following named professors: Dr. N. L. Clarke, dean for two years, diseases of children; Dr. W. W. Hamilton, obstetrics and clinical genitourinary diseases; Dr. D. U. Wadsworth, surgery; Dr. J. H. Blanks, operative and clinical surgery; Dr. W. W. Reynolds, anatomy; Dr. M. J. Lowry, gynecology; O. W. Bethea, secretary, pharmacology; Dr. H. F. Tatum, chemistry; Dr. W. J. Anderson,

physiology and clinical gastroenterology; Dr. I. B. Robinson, materia medica, therapeutics, and clinical rectal diseases; Dr. J. R. Tackett, theory and practice of medicine; Dr. W. H. Rowan, physical diagnosis and chest diseases; Dr. T. A. Barber, eye and ear; Dr. J. E. Seale, nose and throat; Dr. T. J. Houston, genitourinary surgery and venereal diseases; Dr. F. L. Walton, clinical medicine and clinical eye, ear, nose, and throat; and the following lecturers and instructors: Dr. Sara A. Castle, bacteriology, hygiene, and clinical dermatology; Dr. C. H. Ramsey, pathology, histology, and electrotherapeutics; Dr. James Bennett, demonstrator of anatomy and clinical lecturer on diseases of children; Dr. E. E. Robinson, clinical gynecology, minor surgery, and surgical dressing; Dr. J. H. Phillips, dental and oral surgery; Mr. S. A. Witherspoon, medical jurisprudence.

The Mortality of Baltimore.—The report of the health department for the week ending June 16th showed a total of 166 deaths, as compared with 176 for the corresponding week of last year; 175 in 1904, and 135 in 1903. The annual death rate in a thousand of population was: Whole, 14.54; white, 12.28; colored, 26.60. The principal causes of death were: Typhoid fever, 2; scarlet fever, 2; whooping cough, 1; consumption, 34; cancer, 7; apoplexy, 6; organic heart disease, 15; pneumonia, 9; Bright's disease, 17; congenital debility, 9; lack of care, 3; old age, 2; suicide, 1; accidents, etc., 18. The nativity of decedents was: United States: white, 93; foreign, 25; colored, 46; unknown, 2. The following number of cases of infectious diseases were reported as compared with the corresponding week of last year:

| | 1905. | 1906. |
|---------------------|-------|-------|
| Deaths..... | 17 | 15 |
| Scarlet fever..... | 13 | 19 |
| Typhoid fever..... | 5 | 18 |
| Mumps..... | 80 | 48 |
| Whooping cough..... | 4 | 3 |
| Chickens..... | 6 | 6 |
| Consumption..... | 9 | 1 |

CHICAGO AND THE WEST

The Lane Medical Lectures of the Cooper Medical College of San Francisco.—There will be two lectures daily during the week beginning Monday, August 20, 1906, delivered by Dr. John C. McVail, of Glasgow, Scotland, on Practical Hygiene, Epidemics, and Preventive Medicine.

The Iroquois-Ford County (Ill.) Medical Society held its quarterly meeting at Paxton, on Thursday, June 14th, under the presidency of Dr. D. W. Miller, of Gilman. The following programme was presented: Diabetes Mellitus. Dr. T. N. Boue, Loda; Renal Calculus, Dr. Horace Gibson, Sheldon; Eye Strain: Importance of Recognition and Treatment, Dr. C. W. Geiger, Kankakee; Report of Dedication of Ottawa Tent Colony, Dr. S. D. Culbertson, Piper City. Aside from the formal programme, Dr. A. J. Newell, of Onarga, made a report on the recent meeting of the State Medical Society. Resolutions on the death of Dr. D. L. Jewett, of Waseka, were adopted.

The Chicago Medical Society.—At a meeting held on Wednesday, June 20th, officers were elected as follows: President, Dr. G. W. Webster; Dr. Robert G. Gilmore, secretary; councillors for three years, Dr. C. S. Bacon, Dr. Frank Billings, Dr. W. A. Evans, Dr. L. I. McArthur, and Dr. F. Henrotin; alternates for three years, Dr. W. S. Harpole, Dr. W. E. Quine, Dr. H. F. Lewis, Dr. Theodore Tiekens, Dr. B. Pusey. A vote on contract practice by physicians showed a poll of 350 against the practice and 207 in favor of its continuance. The annual report of the committee on permanent home announced that the society had been donated for a permanent home four rooms in the John Crerar Library building, which is to be erected on the lake front near the Art Institute, and that the medical books of the Newberry Library, which have been purchased by the John Crerar Library for the use of the medical profession, will be available at all times to the members of the society.

Statement of Mortality in Chicago for the Week Ending June 16, 1906, compared with the preceding week, and with the corresponding week of 1905. Death rates computed on United States Census Bureau's figures of midyear populations—2,040,185 for 1906, and 1,990,750 for 1905:

| | June 16, 1906 | June 9, 1906 | June 17, 1905 |
|---------------------------------|---------------|--------------|---------------|
| Total deaths, all causes..... | 436 | 523 | 458 |
| Annual death rate in 1,000..... | 11.09 | 13.31 | 12.01 |
| Sexes..... | | | |
| Males..... | 262 | 303 | 254 |

[illegible][illegible]

With one exception—that of June, 1904—the mortality rate of the week just closed was the lowest on record for any June. In June, 1904, the rate was 11.02 in 1,000 of population. The 436 deaths reported during the week furnish a rate of 11.09 in a thousand—7.7 per cent. lower than that of the corresponding week of last year and nearly 17 (16.7) per cent. lower than that of the week of June 9.

GENERAL

The United States Civil Service Commission announces the postponement to July 5-6, 1906 (in view of the small number of applications filed) of the examination scheduled for June 6-7 to secure eligibles from which to make certification to fill at least two vacancies, at \$600 per annum each, with maintenance, in the position of medical interne, Government Hospital for the Insane, Washington, D. C., and vacancies as they may occur in any branch of the service requiring similar qualifications. The department state that it reserves the right to continue or terminate appointment at the end of one year, or to promote the appointee at the expiration of that length of service. The examination will consist of the subjects mentioned below, weighted as indicated: Subjects: (1) Letter writing (the subject matter on a topic relative to the practice of medicine), weights, 5; (2) Anatomy and physiology (general questions on anatomy and physiology and histological or minute anatomy), weights, 15; (3) Chemistry, materia medica, and therapeutics (elementary questions in inorganic and organic chemistry; the physiological action and therapeutic uses and doses of drugs), weights, 10; (4) Surgery and surgical pathology (general surgery, surgical diagnosis; the pathology of surgical diseases, weights, 20; (5) General pathology and practice (the symptomatology, etiology, diagnosis, pathology, and treatment of disease), weights, 25; (6) Bacteriology and hygiene (bacteriological methods, especially those relating to diagnosis; the application of hygienic methods and prophylaxis and treatment), weights, 10; (7) Obstetrics and gynecology (the general practice of obstetrics; diseases of women, their pathology, diagnosis, symptoms, and treatment, medical and surgical), weights, 15; total weights, 100. Two days will be required for this examination. Men only will be admitted. Age limit, 20 years or over on the date of the examination. This examination is open to all male citizens of the United States who comply with the requirements. Applicants must indicate, in answer to question 15 of the application form, that they are graduates of reputable medical colleges. Applicants should at once apply to the United States Civil Service Commission, Washington, D. C., for application Form 1,312. No application will be accepted unless properly executed and filed with the commission at Washington. In applying for this examination the title, Medical Interne, Government Hospital for the Insane, should be used in the application. As examination papers are shipped direct from the commission to the places of examination, it is necessary that applications be received in ample time to arrange for the examination desired at the place indicated by the applicant. The commission will therefore arrange to examine any applicant whose application is received in time to permit the shipment of the necessary papers. Issued April 4, 1906. Reissued June 1, 1906

Pith of Current Literature.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

June 21, 1906.

1. How Progress Comes in Medicine
By FREDERICK C. SHATTUCK.
2. Observation Hospital for Mental Disease. Some Reasons Why There Should Be One in Boston, or at Least an Observation Ward; Statistics of Those at Albany and Glasgow.
By L. VERNON BRIGGS.
A Case of Atrophic Ulcers of the Gallbladder.
By EDWIN A. LOCKE and S. B. WOLBACH.
3. A Case of Multiple Ulcers of the Gallbladder.—
Locke and Wolbach report a case of a woman, fifty-six years of age, who came to the hospital because of painful ulcerations on the anterior part of the right lower leg, of six months' duration. For several weeks she had a troublesome dry cough, which was worse at night; there was also pain in the chest upon deep inspiration or when coughing; night sweats were of moderate severity. Five weeks after admission she had a sudden onset of severe abdominal symptoms suggesting appendicitis. As her condition became rather critical, an operation for appendicitis was performed, but nothing abnormal was found. A local abscess with peritonitis followed and the patient sank gradually. Finally a lobar pneumonia appeared and she died twenty-three days after operation. The autopsy showed the entire gallbladder lined with chronic ulcers, two of which had apparently perforated, causing a general peritonitis.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

June 23, 1906.

1. Work of the Section on Ophthalmology. Chairman's Address Before the Section on Ophthalmology, at the Fifty-seventh Annual Session of the American Medical Association, Boston, June 5-8, 1906.
By LEWIS H. TAYLOR.
2. A More Uniform Standard for the Illumination of Visual Test Types.
By CHARLES H. WILLIAMS.
3. A New Supplementary Test for Color Vision.
By NELSON MILES BLACK.
4. An Analysis of Forty Cases of Meningitis in Infancy.
By JOHN LOVETT MORSE.
5. The Therapeutic Value of Chrysophanic Acid in Dermatology.
By CHARLES JAMES FOX.
6. Generalized Multiple Pigmented Sarcoma Originating in the Skin.
By WILLIAM FRICK and FRANK A. HALL.
7. The Treatment of Lateral Curvature.
By ROBERT W. LOVETT.
8. Bacteriology of the Blood in Typhoid Fever.
By JOSÉ L. HIRSCH, E. B. QUILLEN and W. V. S. LEVY.
9. Atropine and Strychnine Combined, a Remedy for Seasickness.
By ALFRED C. GIRARD.
10. Joint Manifestations in Hæmophilia.
By EDWIN W. RYERSON.

2. **A More Uniform Standard for the Illumination of Visual Test Types.**—Williams describes the method and instruments he uses in illumination for securing proper visual test types. His armamentarium consists of a cabinet painted dull black with an opening being three feet wide by four feet high. In this cabinet the test types cards are hung and illuminated by incandescent lamps. If the office is not supplied with an electric current the author recommends the simplex photometer which he has devised.

3. **A New Supplementary Test for Color Vision.**—Black describes the several tests in use and adds a device of his own. This apparatus consists of a brass tube, with a dead black lining, about 150 cm. long and 4 cm. in diameter, mounting a combination of biconcave lenses; one end is fitted with a hood similar to that used on the ordinary stereoscope. The tube should be mounted in a screen to prevent the person being examined from seeing the source of illumination, which

consists of three standard semaphore lamps, provided with various glasses representing the colors used in the railroad signal service. An attempt to produce the effect of fog, mist, smoke, steam, rain, and lowered intensity, due to different atmospheric conditions, is made by interposing ground glass and different shades of smoke glass which produce the desired effect. The test, the author concludes, fits exactly the conditions found in practice. The objects used in testing are the same used in actual practice, the person tested is required to designate what he sees, either by name or to indicate its meaning, which he does in practice. The fault of all lantern tests is overcome by simulating distance by a relative reduction of the size of the image. The factor which gives the success to the Holmgren worsted test, that of comparison, is followed, the impression of distance is maintained, and the test may be used as an office test. The only thing which cannot be imitated is a gale of wind, or a rain storm, or the roar and noise of the engine for the benefit of the candidate while being examined.

4. **An Analysis of Forty Cases of Meningitis in Infancy.**—Morse reports forty cases of meningitis infantum, equally divided between the tuberculous and the cerebrospinal forms. The diagnosis was made in every case by autopsy or lumbar puncture. A marked predominance of monuclear cells in the spinal fluid are considered diagnostic of the tuberculous form, and of polynuclear cells of the cerebrospinal form. A general summary of cases is given from which it seems to be evident, as the author states, that the picture of meningitis in infancy may differ materially from that of meningitis in childhood and from that which is given in most textbooks as characteristic of the disease. The tuberculous form has a more sudden onset and a shorter course than in later life. The symptomatology of the tuberculous and cerebrospinal forms is essentially the same at this age, although the symptoms of spinal and, to a less extent, of cerebral irritation are, on the whole, more marked in the cerebrospinal. These differences, however, are insufficient to justify a differential diagnosis. The history or presence of a reasonable cause for the tuberculous form points strongly to this disease, but such evidence is frequently entirely wanting. A positive diagnosis between the two forms is impossible on the symptomatology and can only be made by an examination of the cerebrospinal fluid obtained in lumbar puncture. Lumbar puncture has no curative value in cerebrospinal meningitis, but is very useful for the relief of symptoms in both forms.

5. **Chrysophanic Acid.**—Fox describes the use he has made of chrysophanic acid in psoriasis, eczema, herpes circinatus, and sycosis. He thinks that the specific value of the acid in psoriasis seems to be unquestionable, although it is somewhat limited, while in eczema the results were excellent, and in herpes circinatus it is of great value. In sycosis after epilation, the application of the acid seemed to enter the pustules, the contents of which were converted into a white substance, doubtless effectually destroying the offending parasite. The doctor's favorite formula is: Chrysarobin, 10 parts; salicylic acid, 10 parts; ether, 15 parts; and collodium, 65 parts. This is to be painted over the patches every day until they disappear and smooth skin appears. But the preparation should be used with great caution, as it is contraindicated when the skin is irritable and the congested patches are increasing in numbers. It will also discolor the hair.

7. **The Treatment of the Lateral Curvature of the Spine.**—Lovett observes that in taking up the treatment of lateral curvature of the spine, it is of great importance to recognize two distinct types which have not been sufficiently separated: (1) The functional or postural, and (2) the structural or organic type. 1. The prognosis is good for a complete recovery and effi-

cient treatment is satisfactory. The correct attitude is to be obtained by restoring flexibility to the column if it is limited on one side by exercises consisting of bending to one side, hanging, circumduction of the trunk, and similar simple exercises. Having a column flexible in all directions to work on, the patient is then taught to stand correctly by a series of exercises maintaining the erect position. 2. The treatment of structural lateral curvature presents a much more serious and much less encouraging problem than the treatment of postural cases. It consists of two divisions: First, to loosen up the stiffened parts of the spine to make an improved position possible, and, second, to hold this improved position. Certainly, these two elements are not absolutely separate as a rule in treatment; they frequently go hand in hand, and treatment must often be simultaneous for both.

8. Bacteriology of the Blood in Typhoid Fever.—Hirsch and Quillen state that the *Bacillus typhosus* is present in the circulating blood in every case of typhoid fever at some time during its course; it invades the blood very early in the disease, and usually disappears by the end of the third week. A relapse is associated with the reinvasion of the blood by the bacillus. The authors have studied one hundred cases of typhoid fever, drawing the blood from the superficial veins of the arm.

9. Atropine and Strychnine Combined. A Specific for Seasickness.—Girard thinks that $\frac{1}{120}$ grain of atropine sulphate with $\frac{1}{60}$ grain of strychnine sulphate in hypodermic injection is an effectual antidote to seasickness. This should be taken at the commencement of the voyage, or when the sea begins to be rough. The hypodermic injection is to be preferred to a dose by mouth.

MEDICAL RECORD.

June 23, 1906.

1. Some Observations on Prostatectomy, By L. BOLTON BANGS.
2. The Feeding of Infants During the Hot Weather, By I. L. POLOZKER.
3. A Contribution to the Study of the Diagnosis and Treatment of Ectopic Pregnancy, By HIRAN N. VINEBERG.
4. Treatment of Pneumonia, By WILLIAM F. WAUGH.
5. Some Remarks Concerning the Tuberculides, with a Report of Cases Illustrating the Papulonecrotic Variety, By M. B. HARTZELL.

1. Some Observations on Prostatectomy.—Bangs says, that in deciding whether or not to advise prostatectomy we consider the following factors: The general condition of the patient, his social condition and environment, his temperament and his accessibility to judicious medical advice and assistance; whether or not catheter life is likely to fail, and if it has failed, in what degree; and further, what measure of relief is to be gained, even if after the operation some imperfection should remain, which, compared with his prior condition, is insignificant and minor. The ultimate outcome of the operation cannot be definitely foretold, but the relief and comfort are so great that when the indications are clear, it can be wisely advised.

2. The Feeding of Infants During the Hot Weather.—Polozker thinks that the best advice is that a baby should be nursed by its mother. Mother's milk should always be examined by the physician from time to time while she is nursing her infant, according to the simple method recommended by Holt. Holt's objections to the mother's nursing are as follows: (1) No mother who is a subject of tuberculosis in any form should nurse her infant; (2) no nursing should be allowed when serious complications have been connected with the parturition; (3) nor if the mother is choreic or epileptic; (4) nor if the mother is suffering from serious chronic disease; (5) nor when experience on two pre-

vious occasions under favorable conditions has proved her inability to nurse her child; (6) when no milk is secreted. But if a substitute is to be given for mother's milk it should be remembered that proteid is of the first importance as the constituent of food, for it builds up the cells of the body. Sugar stands second in importance, and fat comes third. If it is a matter of heat supply for the body, fat ranks first. To have a proper food all three must be found in their proper proportions. And clinically the author has been convinced from his work last summer that excess of fat in feeding caused more trouble than any other constituent in the food. In feeding infants it should be remembered that they cannot be fed alike. The author's experiences in the clinic with laboratory milk have proved to him that the laboratory milk gives the best results. When in the past the infants were dying rapidly, home modifications of cow's milk made no improvement because of the failure of the mother to carry out the instructions as to modification and cleanliness at home. The last summer, with prescription feeding, and above all by careful attention to details, there were only two deaths to report in the hundred cases. Laboratory milk, properly prescribed by the attending physician, the case watched carefully as to the digestion of the child from day to day, so as to notice the necessity for changing the prescription to a higher or lower percentage of the ingredients as the case may be, is the only proper feeding when artificial feeding is to be resorted to. Some physicians think this artificial feeding is a fad only for sick children, but it provides food for all cases in which the infant cannot get the mother's milk or when the mother's milk is not sufficiently sustaining. The treatment in summer diarrhoea should be laboratory milk, or a good, clean milk. Clean milk, it must be pointed out, is hard to get in this city, as in all large cities. The second thing of importance is to educate the mothers in the care of the child when diarrhoea occurs. (a) Give a teaspoonful or two of castor oil, and no food. (b) Give whiskey in water, and rice or barley water. (c) Lastly, milk, and then give only half the quantity the child can take in health. Teach the mothers the value of fresh air and water excursions. Teach them all about the clothing of an infant. Teach them the value of bathing infants regularly. Keep them clean and cool; keep flies off; keep the nipples of the bottles clean. Cleanliness is of the greatest importance.

4. Treatment of Pneumonia.—Waugh speaks of the treatment of pneumonia as practised at present. It is alleged that the treatment of pneumonia so strongly advocated by those who employ the active principles, is based upon a pathology not now in vogue—the humoral or vasomotor theory, which has been supplanted by the bacterial hypothesis. Pneumonia, it is now thought, is due solely to the pneumococcus, and all the symptoms are attributable to the presence of this microorganism in the pulmonary tract, and to the direct effects of the toxine produced by it. It is just that this claim should be considered, and should receive full credit for whatever of truth it possesses. That the pneumococcus is present in some pneumonia, and is the cause of the attacks, is admitted. That this coccus possesses a monopoly of causing this disease is another matter. The author believes that the influenza bacillus causes a form of pneumonitis only distinguishable from pneumococcus pneumonia by the microscope and by a different symptom picture. Recently the writer attended a case of acute pneumonia that was typical in features and course, except for the absence of fever, and of both pneumococci and influenza bacilli. The only microorganisms found in the sputa were the ordinary diplococci always present in the mouth, and a few other cocci. It seems to the writer, therefore, that the treatment that has proved so satisfactory to

many clinicians may be explained on the modern theories of pneumonia pathology quite as readily as by the older ones. The enthusiasm which is displayed by those who adopt this active principle method in pneumonia is one of the phenomena of the disease, and as such is to be investigated and its causes ascertained, quite as much as any phenomenon observed in the laboratory.

5. **Some Remarks Concerning the Tuberculides, with a Report of Cases Illustrating the Papulonecrotic Variety.**—Hartzell reports three cases of this well defined and readily recognized type of eruption which, whether it is regarded as actually tuberculous or not, is closely related in some way to tuberculosis. Its occurrence in individuals otherwise apparently healthy should lead us to suspect, at least, the possible existence of latent tuberculous foci more or less remote from the seat of the eruption. Drugs have little or no effect upon the eruption, although Donovan's solution has seemed to be of real service in some cases; the most generally useful internal remedy, however, is cod liver oil. More beneficial than either of these is an abundance of fresh air and sunlight, and patients the subjects of this malady should be directed to live in the open as much as possible. Some differences of opinion exist as to its histopathology, but these are most probably to be explained by the fact that the tissue alterations vary considerably with the age of the lesions, not only as to their character, but as to their situation. Pollitzer and Fordyce regard the sweat glands as the primary seat of the disease, while Barthélemy believes it to be an inflammation of the follicles; but later investigations have shown pretty conclusively that it begins with inflammatory changes in and around the bloodvessels, the sweat glands and follicles being implicated only secondarily. The morbid process has its origin in the deepest portions of the corium and gradually extends to the surface. The vessels are surrounded by an abundant round cells infiltration which frequently extends down to the fat tissues beneath the corium, the walls of the arterioles and veins are markedly thickened, their endothelium swollen, and their lumina in consequence much obstructed or even completely obliterated. In lesions somewhat advanced extensive areas of necrosis are present in the central and lower portions of the corium in the midst of which bloodvessels with greatly altered walls may be seen. The eruption is characterized by an eruption of small, dark red or bluish nodules most abundant usually upon the backs of the hands, the elbows and knees, the feet and ankles, and the helix of the ear, but not confined exclusively to these situations. The evolution of the lesions, which begin deep down in the skin, is slow, each one lasting from a few weeks to a month or two. When they have reached their acme the summit of each one becomes the seat of a small pustule or vesicopustule which is presently transformed into a black or brown crust covering a small loss of substance in the centre of the nodule; with the fall of this crust a deep, pit like cicatrix is left, not unlike the cicatrix of variola.

BRITISH MEDICAL JOURNAL

June 9, 1906.

1. A Paper on Endemic Sporadic Dysentery (with Shiga's Bacillus) in England, By R. SAUNDBY.
2. Some Clinical Features of the Several Types of Colitis, By H. A. COLEY.
3. Two Cases of Ruptured Duodenal Ulcer. With a Note on the Effect of Posture on the Loss of Liver Dulness, By J. CLAY.
4. A Lecture on Mind and Matter, By T. C. SHAW.
5. General Convulsions in Early Infancy Induced by the Taking of Food, and Their Bearing Upon Pyloric Obstruction in the Infant, By E. SMITH.
6. The Infectivity of Enteric Fever, By W. WEDDERBURN and W. ARCHIBALD.

7. Successful Amputation of the Leg at Ninety-four Years, with an Account of a New Operation,

By C. W. BRANCH.

1. **Endemic Dysentery (Shiga).**—Saundby reports a case of endemic sporadic dysentery, caused by the bacillus of Shiga. The recognition of such cases is not difficult. The patient often gives a history of several previous attacks of severe diarrhoea. The stools may be as many as twenty or thirty a day, this being quite characteristic. They are always liquid and contain blood or mucus or pus. The amount of blood varies, but may be quite considerable when a bloodvessel is eroded. The reaction of the stools is often alkaline. Pain is not constantly present, and is of varying character. It may be cramp like or colicky, or a general painfulness over the whole abdomen, or may occur only with defæcation, or there may be tenesmus. It generally bears no relation to the taking of food. Too much importance has been attached to the presence of tenesmus. Tenderness is common and may point to peritonitis. Vomiting varies widely; it may be frequent or absent. The vomited matter may be the contents of the stomach or bile. The tongue is generally dry and covered with a thick brown fur. The temperature is usually only moderately elevated, but it may be high. In chronic cases it may be subnormal. In most of the fatal cases the cause of death is perforation of the wall of the bowel by an ulcer. In others death is due to exhaustion from the persistent hæmorrhage and diarrhoea. Recovery does take place, but it is often incomplete. The prognosis must be very guarded, as often the anatomical condition of the bowel precludes any hope of recovery. The patients should be sent to bed and kept there until they are so far recovered that they can take ordinary food without any recurrence of the diarrhoea. Quinine is the most valuable drug, given in one large dose of fifteen to twenty grains, followed by smaller doses of five to ten grains. A large dose of calomel (twenty grains) should also be given, and the bowel irrigated with warm water. The diet should consist of milk thickened with flour, beef tea, and mutton broth.

2. **Colitis.**—Coley classifies the inflammatory affections of the colon as follows: 1. Catarrhal or simple colitis. (a) Acute form; diarrhoea with excess of mucus and often blood, subsiding rapidly on irrigation with saline solution. (b) Chronic catarrhal colitis. This is frequently a sequela of an acute attack. It is characterized either by loose mucous or watery evacuations persisting for months, or by constipation with excess of mucus in the stools. Chronic colitis is important as a cause, as a complication, and as a simulator of appendicitis. Enterospasm may be an exaggerated reflex phenomenon of chronic colitis. 2. Membranous or mucomembranous colitis. This is characterized by the presence of membranous exudation as distinct from simple mucous secretion in the dejecta, usually in the form of membranous masses, tubercular casts, or pellicular shreds; irregularity of the intestinal functions, with constipation, often intractable, as a most conspicuous feature; pain, which is constant or variable dull aching pain in some part of the colon, and paroxysmal pain of varying intensity. Constipation is the most constant antecedent. In most cases a gouty or rheumatic element, inherited or acquired, can be traced. Neurasthenia also plays a part in the ætiology of the disease, as does influenza. 3. Parietal colitis and pericolicitis. 4. Ulcerative colitis: (a) Endemic (tropical dysentery); (b) epidemic; and (c) sporadic.

LANCET.

June 9, 1906.

- Chronic Appendicitis and the Early Diagnosis and Treatment of Acute Appendicitis in Children (*Wightman Lecture*), By A. BROCA.
2. Dyspepsia, By A. G. BARRS.

3. Hygienic Measures Against Syphilis (*Harben Lectures, III*),
By E. METCHINKOFF.
4. Pneumococcic Peritonitis in Children: A Study,
By W. F. ANNAND and W. H. BOWEN.
5. Achondroplasia: Its Occurrence in Man and in Animals,
By C. R. KEYSER.
6. Tuberculous Disease of the Seminal Tract,
By K. E. L.-G. GUNN.
7. Case of Acute Yellow Atrophy of the Liver,
By H. C. KEATES.
8. On Deep Alcohol Injections in Facial and Other Neuralgias and in Histrionic Spasm,
By F. OSTWALT.
9. A Case of Acute Poisoning with Oil of Eucalyptus,
By J. BENJAMIN.

1. **Appendicitis.**—Broca, in the Wightman lecture, discusses first the symptomatology and diagnosis of chronic appendicitis. Commonly there is gastrointestinal atony, attended with flatulent distention of the abdomen, dyspepsia, eructations, and constipation sometimes alternating with diarrhoea. The tongue is coated, the breath offensive, the complexion grayish or subicteric, the appetite capricious, and there is habitual nausea. Gastralgia or stomach ache coming on without known cause, and of variable intensity, is also common. There is generally a sense of weight or indefinite pain in the right iliac fossa; the cæcum is thickened, expanded and gurgling on palpation, and there may also be a small tumor—either the appendix itself or enlarged lymphatic glands. Deep palpation, especially on McBurney's point, causes pain and defensive contraction of the abdominal wall. Vomiting, especially in children, may be a striking symptom. Infectious phenomena are often *nil*. Attention is called to the fact that in acute cases with localized suppuration, too early operation may result in inoculation of the adjacent peritonæum and fatal peritonitis. The writer's rule is to operate immediately if he is called within the first twenty-four hours, before perforation or gangrene, before adhesions and suppuration have occurred. Such an operation can be performed under anatomical conditions almost identical with those of the interval operation. But to act in this way the diagnosis must be certain. Among the conditions likely to be mistaken for acute appendicitis are the following: 1. Pneumococcic and gonococcic peritonitis. The latter occurs exclusively in girls, and vulvovaginitis is often present. The pain often starts at the navel and the swelling is slow in forming. Opening the abdomen aggravates either of these forms of peritonitis. 2. Intestinal helium thiasis. 3. Pneumonia with an abdominal "stitch." 4. Pleurisy.

2. **Dyspepsia.**—Barrs holds that by far the greater part of the cases of dyspepsia which are not due to organic changes in the stomach are due to disturbances outside the stomach altogether—to blood states, circulatory disorders, intoxications, nervous diseases, etc. With normal blood and nerves, the stomach should be as little disturbed as any other viscus. Wholesome food in its many varieties does not cause indigestion. Age and sex are important; in children and adolescents organic gastric disease is very rare in males, less rare in females. In young women stomach disorders are frequent and organic disease (ulcer) is common. In older women the frequency is about the same as in males. When a man in middle life, who has hitherto had a good appetite and a good digestion, begins to complain of persistent loss of appetite and a painful digestion, the probability is that if the stomach is to blame it is the seat of organic disease. Chronic vomiting, if due to stomach disorder, almost always means mechanical disease. Gastric disorder causing a marked loss of flesh is almost always organic. Anæmia and cachexia have the same significance. Gastric disorders markedly benefited by rest in bed and restricted diet are probably of an organic nature. Many cases of gastric ulcer in women have no physical signs except tenderness on pressure.

1. **Pneumococcic Peritonitis.**—Annand and Bowen have made a study of pneumococcic peritonitis in children below the age of fifteen years. They have made a study of these and summarize their conclusions as follows: 1. Pneumococcic peritonitis is a comparatively rare disease in children, but in the past many cases have not been recognized. 2. It is in about one third of the cases secondary to some remote pneumococcal lesion; of these affections of the lungs and pleura are by far the commonest, the middle ear being the next most common site. The infection is carried to the peritonæum in the blood stream. 3. In the remaining two thirds the peritonæum is probably infected from the bowel in the vast majority. No microscopic lesion is, as a rule, found. 4. In half the cases the pus is encysted; in these the diagnosis is fairly easy, the prognosis is good, and the treatment is laparotomy and drainage. 5. In the other half of the cases the peritonitis is diffuse, the diagnosis is very difficult, and the prognosis very gloomy. The treatment is laparotomy. 6. The pathological appearances are characteristic.

5. **Achondroplasia.**—Keyser discusses under the term "achondroplasia" or chondrodystrophia fœtalis hyperplastica, the condition formerly known as fœtal rickets, fœtal cretinism, etc. The subjects are short and stunted, the limb bones being chiefly affected, and fall under the condition of micromelic dwarfs. The cause is entirely unknown, it being distinct from rickets, syphilis, or cretinism. The disease is occasionally hereditary. The bones ossified from cartilage before birth are dwarfed, the change occurring during the first few months of uterine life. One constant feature of the disease is premature synostosis of the basioccipital with the basisphenoid, the result being marked depression and flattening of the bridge of the nose. The hands are broad and short and the fingers short and tapering. The joints of the hand have an abnormal range of movement. The condition is usually mistaken for rickets or cretinism. The intelligence is usually exceptionally good.

6. **Tuberculosis of the Seminal Tract.**—Gunn sums up his remarks on tuberculous disease of the seminal tract as follows: 1. Infection may readily pass along a normal vas to the vesicle or prostate; the fact that the vas above a diseased testis feels healthy is no proof that the tubercle has not extended to the vesicles. 2. When both testicles and seminal vesicles are infected radical treatment alone is likely to be followed by success. 3. Where the disease is confined to the seminal tract it can be completely removed and that without any great risk to the patient. 4. In all probability the patient is functionally no worse after such an operation than he is after a partial operation on both testes.

LYON MEDICAL.

May 27, 1906.

The Primary Principles of Physiology, By J. P. MORAT.

Primary Principles of Physiology.—Morat deals in this, the final number of his paper, with the Laws of the Organization. Under this general heading he speaks quite briefly of the law of division of work, the law of the constitution of the organism, or of morphological differentiation, the bodily and cellular functions, the muscular elements and their changes, the glyco-genic and the urogenic functions of the liver, the convergence toward the liver of the utilizable carbon, the nutritive and the respiratory quotients, aerobic and anaerobic reactions, origin of animal heat, chemical equilibrium, exothermic, and endothermic reactions and catalysis.

LA PRESSE MEDICALE

May 26, 1906.

1. The Syncytium; Its Physiological and Pathological Role.
By CYRILLE JEANNIN.

2. Intestinal Origin of Tuberculous Inflammation of the Tracheobronchial Glands.
By A. CALMETTE, C. GUERIN, and A. DELEARDE.
3. Methodical Protection Against Malaria.
By P. DESFOSSES.

1. **The Syncytium.**—Jeannin claims that the syncytium plays an important part in nutrition from the standpoint of the foetus, while from the standpoint of the mother it behaves as a foreign element, almost teratoid, which acts simply by its secretion wherever it extends beyond the limits of the placenta to reach by way of the blood all parts of the organism. This double mode of action explains the parts which have been ascribed to it from the physiological and pathological point of view.

2. **Intestinal Origin of Tuberculous Inflammation of the Tracheobronchial Glands.**—Calmette, Guerin, and Delearde arrive at the following conclusions: 1. Experimentally in animals and clinically in children whenever tuberculous infection manifests itself through a tracheobronchial adenopathy tuberculous bacilli exist in the mesenteric glands. 2. When infection of the mesenteric glands precedes the appearance of the lesions of tracheobronchial adenopathy it should be considered the same as pulmonary tuberculosis in the child and the adult as the result of tuberculous infection of intestinal origin. They consider that the hypothesis of direct contamination by the respiratory passages has not yet been demonstrated by any unexceptionable evidence, and that it seems to be increasingly evident that children and adults contract tuberculosis from the milk of tuberculous cows, or from food soiled with the bacilli, or particles of tuberculous saliva of human origin.

3. **Methodical Protection Against Malaria.**—Desfosses describes a method of protecting the doors and windows of houses so as to exclude mosquitoes, and so ward off malaria.

May 30, 1906.

1. Persons Operated on for Appendicitis When They Have Not That Disease. By Professor DIEULAFOY.
2. Habitual Constipation and Latent Inflammation of the Peritonæum. By R. ROMME.

1. **Persons Operated on for Appendicitis When They Have Not That Disease.**—Dieulafoy claims that he has been greatly impressed by the number of people he has met with who have been operated on for appendicitis, when they were suffering not from that disease, but from mucomembraneous or other forms of typhlocolitis. He reports eleven cases, and protests against the frequency of this error in diagnosis.

ZENTRALBLATT FUER CHIRURGIE.

June 2, 1906.

1. Arthrodesis in the Treatment of Paralytic Luxation of the Hip Joint. By S. KUFMANN.

1. **Arthrodesis for Paralytic Luxation of the Hip.**—Kufmann reports a series of such cases with excellent results, which he operated according to Menciér's method. The operation consists in opening the hip joint, the removal of the cartilaginous covering of the head of the femur, scraping the acetabulum with partial removal of the synovial membrane and of the ligamentum teres, touching the exposed parts with carbolic acid and washing them with alcohol. The wound is closed without drainage, and the bandage applied with the leg adducted and rotated outward. A fibrous arthrodesis results which answers every purpose for which the operation was performed.

ZENTRALBLATT FUER GYNAEKOLOGIE.

June 2, 1906.

1. Pelvioplastic Operations. By B. CRÉDÉ.
2. A Simplification of von Bylicki's Method of Measuring the Pelvic. By J. FAUST.
3. A Method of Determining the Foetal Heart Sounds During the First Half of Pregnancy. By M. SCHWAB.
4. Use of the Röntgen Rays Upon the Ovaries During Pregnancy. By O. O. FELLNER and F. NEUMANN.

1. **Pelvioplastic Operation.**—Crédé has recently performed the operation about to be described upon a parturient woman. The child was born alive and well, and the mother made an afebrile recovery. His proposal is to perform the operation during pregnancy, thus avoiding many of the disadvantages of operating during parturition (bleeding, especially). The operation consists in incising the descending ramus of the pubes about two centimetres in length, and inserting in the opening a piece of bone of equal length removed from the horizontal ramus. The operation is done by choice on the left side, and if it is performed during pregnancy, or even before pregnancy, and more space still is required during parturition, a symphysectomy or pubiotomy on the right side can still be done. The operation is especially indicated in women with rachitic pelvises.

3. **Foetal Heart Sounds.**—Schwab finds that he can hear the foetal heart sounds during the first half of pregnancy by carrying out the manœuvre which he has perfected. With the patient standing, he places the ulnar surface of the right hand directly over the symphysis, then pushes it vertically downward until he almost reaches the vertebral column, thus forcing the uterine contents against the fundus. With the left hand he demonstrates to his satisfaction that the foetus lies across the uterus horizontally. At the most prominent point he places the stethoscope and can readily hear the sounds of the foetal heart. The procedure must be carried out carefully so as to avoid any possibility of hæmorrhage.

4. **Roentgen Rays in Pregnancy.**—Fillner and Neumann find that the Röntgen rays have the effect upon the ovaries of causing a degeneration of the ripened follicles as well as upon the secretory parenchyma of the organ. It is questionable whether the restoration of ovulation takes place. Although the experiments were carried out on rabbits, it is likely that the effects upon the human ovary are not different. During the early months of pregnancy, abortion is likely to result. The author considers speculatively the use of the rays to cause early menopause in cases of bleeding myomata, to cure osteomalacia, and to bring about temporary or permanent sterility.

LA RIFORMA MEDICA.

May 12, 1906.

1. Two Cases of Leucæmia Treated by Means of the Röntgen Rays. By E. DE RENZI.
2. The Mechanism of the Action of Radium Upon the Virus of Rabies. Fifth Communication.
By GUIDO TIZZONI and ALESSANDRO BONGIOVANNI.
3. Clinical Observations Upon Blenorrhagic Arthritis and Its Treatment by Means of Bier's Method.
By TOMASO SECCHI.

1. **Two Cases of Leucæmia Treated with the Roentgen Rays.**—De Renzi's two cases of leucæmia were of the type described by Leub, and known as "leucoanæmia." The patients were treated by means of the x rays by Boeri, of De Renzi's clinic. The apparatus used was a coil giving a spark of seventy centimetres. The vacuum tube was 15 centimetres in diameter, and was placed at a distance of 10 centimetres from the surface of the body. The primary current used was of four, the secondary current of 0.3 or 0.4 milliampères, corresponding to eight degrees of Benoist's radiochronometer. The duration of each exposure was from five to ten minutes at the first few sittings, gradually increased to twenty minutes. The region of the spleen was exposed each time. In the first patient the treatment was suspended after ten daily sittings. The red cells had increased, the white decreased, and the hæmoglobin had been augmented. This improvement continued throughout a period of ten days during which no treatment was given. Ten additional daily sittings were then given, with the result that the blood showed

still more satisfactory conditions. A dermatitis which did not amount to much developed at the site of the exposures, but healed without any trouble under appropriate treatment. The white cells in this case were reduced from three hundred and fifty thousand to thirteen thousand. In the second patient similar treatment gave similar results, the white cells diminishing from one hundred and seventeen thousand to ninety-seven thousand, but the case is still under observation.

2. Action of Radium on Rabies.—Tizzoni and Bongiovanni continue their reports on the action of radium emanations upon the virus in rabies in vivo, four previous papers which have appeared having been abstracted in this column. The virus of rabies is markedly affected by radium, both in vitro and in vivo, and is rendered either totally or partially ineffective. In animals who have already developed the disease, moreover, the virus is considerably weakened in virulence. The chief point of the present paper is that the effect of radium differs in vitro from that obtained in vivo. In the test tube the radium produces a chemical decomposition of the virus in virtue of the emanations which this element gives forth. In the animals on the other hand exposure to radium has simply a biological effect on the virus, through the radiations of radium. The radioactivity of the cerebrum which radium induces under these conditions is a vital phenomenon, which may result either from emanations or from radiations. The radium radiations get to the nervous stem through the eye exposed to radium, and penetrate into the large nerve trunks at the base of the brain. The emanations also enter the eye and affect the brain. The radiations, however, influence the cord and the spinal nerves through the apertures in the spinal column, but the bones markedly interfere with their transmission.

Proceedings of Societies.

ASSOCIATION OF AMERICAN PHYSICIANS.

Twenty-first Annual Meeting, Held in Washington, May 15 and 16, 1906.

The President, Dr. FRANK BILLINGS, of Chicago, in the Chair.

(Concluded from page 1318.)

Glandular Fever.—Dr. ALFRED STENGEL reported for himself and Dr. J. WILLIAM WHITE and Dr. J. S. EVANS, of Philadelphia, a case in which there was universal enlargement of glands with a series of skin lesions resembling very much those of macular and papular syphilis. The patient was a physician and absolutely denied specific infection. Careful search was made for the *Spirochæta pallida* in the serum and in the liquid obtained from excised glands, but without success. Cultures made from the blood, the glands, and the tonsils gave a streptococcus resembling one which was pathological for horses, producing what was called glandular fever and also epidemic coryza in those animals. The patient gradually improved without specific treatment.

Dr. WELCH, of Baltimore, said that caution must be exercised in suggesting new pathogenic streptococci, since these microorganisms might present very different pictures.

Dr. KOPLIK, of New York, said that glandular fever was a bad name for this disease, since it would produce a confusion with an affection already known as glandular fever in children.

Cerebrospinal Meningitis.—Dr. SIMON FLEXNER, of New York, read for himself and Dr. HOUGHTON the details of some experiments made on monkeys with the microbe of cerebrospinal meningitis. Lesions similar to those in man could be produced in the monkey quite readily. The affection was produced by the injection

into the spinal canal of serum taken from fresh cases of cerebrospinal fever in human beings. If the monkeys were very susceptible and if the doses were large, they died in twenty-four hours. If they survived beyond forty-eight hours, usually there was recovery. The diplococci were found at first outside the cells of the cord, but later inside of them. In chronic cases dilatation of the ventricles of the brain occurred. The localization of the lesions on the posterior part of the cord and at the base of the brain was the same as in human beings, showing that there was a selective action and that it was not merely by gravity or because of the point of invasion that this occurred in human beings. In a certain number of cases, although the inoculation was made into the spinal cord, diplococci were found in the nasal discharges of the monkeys, and a certain amount of inflammation had been produced in the upper nasal passages. It would seem, then, that the finding of diplococci in the nose was by no means definite proof that they got in through this avenue, since it seemed possible for them to come out of the brain perhaps by the same lymph channels by which in other cases they would find their way in and thus make their appearance in the nose.

Dr. JAMES EWING, of New York, said that the question of the diplococci meningitis finding their way downward into the nose had been originally suggested by Dr. Elser. There seemed to be little doubt of the possibility and even probability of this course, though it might be that the microorganisms first found their place of invasion here and later multiplied under the favorable conditions presented by the lowered resistive vitality of the patient during the progress of an attack.

The Nature of Spirochæta.—Dr. F. G. NOVY, of Ann Arbor, Mich., discussed the nature of these microorganisms, which had attracted so much renewed attention since it had come to be generally conceded that the spirillum of Schaudinn was the cause of syphilis. The spirillum had been thought to be animal in character, but Dr. Novy, from studies of the spirillum of Obermeier and others of similar nature, was not able to accept such an opinion. The organism of tick fever in Africa was of the same nature, and while this was conveyed by an insect, that fact did not necessarily signify that it was of protozoic character. Yellow fever, for instance, though conveyed by a mosquito, might not be due to a protozoon, but to a bacterium. Dr. Novy showed a number of slides in which the spirilla could be observed in process of division longitudinally, and not sideways, as would be expected in the case of a protozoon. Instead of many flagella, as was the case so often with bacilli, spirilla had a single flagellum. They sometimes became united together by the interlocking of their flagella, and that might make considerable change.

A Serum for Relapsing Fever.—Dr. Novy said he had succeeded in preparing a serum that would immunize against relapsing fever and prove curative if taken in the early stages.

Thrombophlebitis of the Splenic and Portal Veins in Relation to Anæmia.—Dr. A. SCOTT WARTHIN, of Ann Arbor, gave the pathological details of four cases of relatively acute splenic thrombophlebitis following pneumonia and presenting features of secondary anæmia and splenic fibrosis. Dr. Dock and he considered that this constituted a variety of splenic anæmia. In these cases a pathological process in the liver was usually associated, and two of the patients had been affected by enlargements of the veins of the œsophagus with consequent tendencies to hæmorrhage.

Hypertrophic Thymus.—Dr. WARTHIN described two cases of sudden death in children associated with enlargement of the thymus gland. In one case the lymph glands were enlarged, so that the diagnosis of the lymphatic diathesis would surely have been made.

The thymus gland in both cases showed lymphoid hyperplasia with a large number of eosinophile cells. Dr. Warthin considered that the underlying condition in this affection was a toxæmia which resulted in exhaustion of the lymphoid material of the lymph glands, bone marrow, and spleen and a consequent compensatory hypertrophy of the thymus gland. In both cases there were atrophy and disappearance of the lymphoid elements in all the lymphatic nodes and hyperplasia of the endothelial and fibrous elements in the glands.

Exophthalmic Goitre.—Dr. W. GILMAN THOMPSON, of New York, discussed seventy-five cases of exophthalmic goitre recently under observation. In most of the cases there was an acute febrile condition in addition to the goitre, the tachycardia, the exophthalmus, and the tremor. Certain other symptoms, such as dilatation of the heart, dyspnœa, precordial pain, œdema of the legs, erythema, and a marked tendency to sweating, were also noted. The fever might go as high as 104° and continue for several weeks. The symptoms were all most marked during certain acute exacerbations which occurred every now and then in the course of the disease. It was the course of these acute developments of symptoms which was most influenced by the new serum that had been prepared for the treatment of the disease.

Dr. Thompson thought that the development of acute symptoms could usually be traced to an attack of amygdalitis, bronchitis, or influenza, or to some gastrointestinal disturbance. Such incidents always affected the patient suffering from exophthalmic goitre much more than one under normal conditions, and the tonsils seemed particularly to produce pathological deterioration. He thought that under some circumstances, especially when the fever was high, these acute manifestations of exophthalmic goitre might be and undoubtedly had been mistaken for acute septicæmia, malignant endocarditis, and other more or less obscure affections.

The Treatment of Exophthalmic Goitre by a Specific Cytotoxine.—Dr. JOHN ROGERS, of New York, detailed his experience. Over thirty cases have been treated, of which eight had been cured, every sign of the disease having disappeared. Sixteen patients had improved very strikingly and were subjectively cured, though some of the symptoms, such as tremor and exophthalmus, remained. Nine had failed to be benefited by the treatment.

The injections were given every forty-eight hours, and no other treatment was employed. The serum was least effective in cases of old, large, fibrous thyroid. In cases of soft hyperplasia of the thyroid six months' treatment was required. None of the other serum employed had given as good results as that at first obtained.

Dr. S. P. BEEBE, of New York, described the preparation of the specific serum. In order to obtain the best results, diseased thyroid gland had to be injected into the animal. The difference between the serum thus obtained and that after the injection of normal thyroid gland was not essential, however, and it was possible that some method of increasing the specific antitoxicity might be secured. In the mean time, through the kindness of Dr. Mayo, of Rochester, Minn., sera had been obtained by the use of pathological glands removed in his hospital. Dr. Beebe thought that the improvement obtained after the administration of this serum was not due to coincidence or to psychic influences, but that it resembles very much the effect of an antitoxine.

Hyperthyroidism.—Dr. JAMES EWING, of New York, discussed the pathology of exophthalmic goitre. He thought that it is generally regarded as due to hyperthyroidism. At the beginning of Graves's disease a certain number of giant cells were found in the

gland. After a time the cellular overgrowth disturbed the glandular arrangement, and there was a diffuse infiltration with round cells. At this time there was often tenderness of the glands, the vessels became distended, and there was evidently a subacute inflammation. After a time degeneration set in and then, instead of an excess of thyroid secretion, there might be a deficiency, with the consequent development of myxœdema. Dr. Ewing presented a number of lantern slides showing these various changes and the terminal stages of the degeneration into hyaline and calcareous material.

Exophthalmic Goitre Therapy and Its Illusions.—Dr. MELTZER, of New York, said that a number of remedies had seemed to prove successful in the treatment of exophthalmic goitre. Jones, of Liverpool, had suggested the use of thyroid extract because some of his patients had recovered under this method of treatment. Later on, however, he found that he had been administering the thymus instead of the thyroid, because of a mistake at the butcher's. The subsequent use of thymus, however, proved unavailing. Other experiences of the same kind had been noted.

Dr. FORCHHEIMER, of Cincinnati, said that in his hands, by careful symptomatic treatment and special attention to the gastrointestinal tract, exophthalmic goitre almost invariably improved. In some of them the improvement was only a matter of a few weeks; in others it took longer.

Dr. MCCALLUM, of Baltimore, said that the results reported from the use of the new serum were certainly startling enough. It was rather difficult to understand, however, just how the improvement in symptoms came about. Graves's disease was due to hyperthyroidism, and yet the serum produced no specific effect upon the gland; at least this had not been the case under Dr. McCallum's own observation.

Book Notices.

A Handbook of Climatic Treatment, Including Balneology. By WILLIAM R. HUGGARD, M. A., M. D., F. R. C. P. Lond.; H. B. M. Consul at Davos, Switzerland. London: Macmillan and Company, Limited, 1906. Pp. xiii-536.

The author has aimed to place the therapeutics of climate on a more secure foundation, and also to enable the physician to master the principles of choice in the selection of baths and mineral waters. As a preliminary, a knowledge of the factors of climate from a medical standpoint is necessary, so six chapters are devoted to a concise account of meteorology. The physiological action of climate, in the influence of temperature, of humidity, of pressure, and of light, is then described at length.

The author considers that the principle of climatic division is the demand made by a climate for the production of animal heat. Subdivisions are made according as the heat demand is regular or irregular. He suggests that, other things being equal, that climate is most tonic which demands the greatest amount of tissue change that a given organism can permanently yield.

Chapters are devoted to the health resorts of various parts of the world, in general geographical divisions. Baths are described briefly, and eleven chapters are devoted to mineral waters for internal use. Those general and constitutional diseases benefited by climatic or balneological treatment are reviewed in separate chapters.

The author has confirmed his observations by reference to many authorities, and there is a good index. The volume shows extensive experience, and is an interesting contribution to the literature of this important subject.

Miscellany.

Electric Precipitation of Colloids.—An essential characteristic of colloid solutions is that their particles are precipitated at one of the electrodes when a current is passed through. A. Schmauss (*Annalen der Physik*) has studied this precipitation, and found it to vary with the conductivity of the solvent. If this is less than that of pure water, three zones make their appearance, one of them being free from colloid particles, one of them containing the precipitate, and the intermediate space containing the unchanged solution. When the solvent is water, there are four zones, the additional zone being round the empty space at the cathode and containing concentrated colloid. The author used colloid solutions of gold and silver prepared by Bredig's method. He found a speed of the ions amounting to 0.00026 centimeter per second, that being of the order of the usual monovalent ions. This considerable speed means the presence of high electric forces. A study of the current strength led the author to conclude that the water is decomposed into ions whose condensing capacity accounts for the additional zone, and whose charges, added to the small charges of the colloid particles, produced the high speed. The ions are probably H and OH. The ions at the anode produce concentrations in the shape of rings round it.—*Electrician*, through the *Archives of the Röntgen Ray*.

Official News.

Public Health and Marine Hospital Service Health Reports;

The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ending June 22, 1906:

| Smallpox—United States. | | | |
|---------------------------|----------------|-----------|---------|
| Places. | Date. | Cases. | Deaths. |
| Alaska—Nome | June 14 15 | 6 on sch. | Montev. |
| California—Los Angeles | June 2-9 | 1 | |
| Florida—General | June 9-16 | 6 | |
| Florida—Jacksonville | June 9-16 | 3 | |
| Georgia—Augusta | June 4-11 | 1 | 3 |
| Georgia—Sapelo Island | To June 12 | 6 | |
| Louisiana—New Orleans | June 9-16 | 5 | |
| Michigan—Detroit | June 9-16 | 2 | |
| Montana—General | May 1-31 | 6 | |
| New York—Monroe | June 19 | 1 | |
| New York—Saratoga Springs | June 19 | 1 | |
| New York—New York | June 9-16 | 4 | |
| North Dakota—General | Apr. 1-30 | 25 | 4 |
| Ohio—Cincinnati | June 8-15 | 12 | |
| Ohio—Hamilton | May 12-19 | 1 | |
| Ohio—Youngstown | May 16-June 15 | 3 | |
| Oklahoma Ter.—Oklahoma | June 2-9 | 8 | 1 |
| Oregon—General | May 1-31 | 36 | 1 |
| Pennsylvania—Allegheny | June 9-16 | 1 | |
| Pennsylvania—Pittsburgh | May 26-June 9 | 5 | 3 |
| Tennessee—Knoxville | June 9-16 | 1 | |
| Tennessee—Memphis | June 2-16 | 5 | |
| Utah—General | May 1-31 | 79 | |
| Wisconsin—Appleton | June 9-16 | 2 | |
| Smallpox—Foreign | | | |
| Africa—Cape Town | May 5-12 | 4 | |
| Africa—Freetown | May 14 | Present. | |
| Belgium—Liege | May 19-26 | 1 | 1 |
| Brazil—Pernambuco | May 8-15 | 5 | |
| Chile—Antofagasta | May 20 | Present. | |
| Chile—Coquimbo | May 20 | Present. | |
| Chile—Iquique | May 20 | Epidemic. | |
| Chile—Taltahuana | May 20 | Present. | |
| France—Paris | May 12-26 | 16 | |
| Gibraltar | May 27-June 3 | 2 | |
| Great Britain—Liverpool | May 26-June 2 | 3 | |
| Great Britain—London | May 26-June 2 | 3 | |
| India—Bombay | May 15-22 | 5 | |
| India—Calcutta | May 6-12 | 57 | |
| India—Karachi | May 13-20 | 15 | |
| India—Madras | May 12-18 | 11 | |
| India—Rangoon | May 6-12 | 23 | |
| Italy—General | May 25-31 | 27 | |
| Peru—Callao | May 12-19 | 1 | |
| Cholera—Foreign | | | |
| India—Bombay | May 15-22 | 20 | |
| India—Calcutta | May 6-12 | 42 | |
| India—Rangoon | May 6-12 | 4 | |

Yellow Fever—Foreign

| Costa Rica—Limon | June 20 | 1 | |
|-----------------------|----------------|-----|-----|
| Cuba—Havana | June 18-21 | 2 | |
| Honduras—Puntarenas | May 19-21 | 20 | |
| *Mexico—Merida | May 27-June 9 | 3 | 1 |
| Plague—Insular | | | |
| Hawaii—Honolulu | June 15 | 1 | |
| Plague—Foreign | | | |
| Australia—Brisbane | Apr. 28-May 5 | 1 | 1 |
| Australia—Rockhampton | Apr. 28-May 5 | 1 | |
| Brazil—Pernambuco | May 1-15 | 34 | 12 |
| Egypt—General | May 17-31 | 1 | |
| Egypt—Alexandria | May 29 | 2 | 1 |
| Egypt—Port Said | May 26 | 1 | |
| India—Bombay | May 15-22 | 511 | |
| India—Calcutta | May 6-12 | 92 | |
| India—Rangoon | May 13-20 | 144 | 135 |
| India—Rangoon | May 6-12 | 69 | |
| Peru—Lambayeque | May 6-13 | 2 | |
| Peru—Lima | Apr. 30-May 13 | 9 | |

* Case reported at Coatzacoacoas in report for June 8, 1906, found not to be yellow fever.

Public Health and Marine Hospital Service:

List of Changes of Stations and Duties of Commissioned and Non-commissioned Officers of the Public Health and Marine Hospital Service for the seven days ended June 20, 1906:

- ACHENBACH, JOHN, Pharmacist. Granted leave of absence for thirty days, from May 3, 1906, on account of sickness.
- AMESUN, J. W., Passed Assistant Surgeon. Relieved from duty at Ellis Island, N. Y., and directed to proceed to Gulfport, Miss., for temporary duty.
- BAILEY, C. WILLIAM, Acting Assistant Surgeon. Granted leave of absence for seven days, from June 27, 1906.
- BROWN, F. L., Pharmacist. Granted leave of absence for one day, June 16, 1906, under Paragraph 210 of the Regulations.
- COLLINS, G. L., Assistant Surgeon. Granted leave of absence for three days, from June 25, 1906.
- DE VALIN, HUGH, Assistant Surgeon. Granted leave of absence for one day, June 16, 1906, under Paragraph 191 of the Regulations.
- MASON, W. C., Acting Assistant Surgeon. Granted leave of absence for five days, from June 25, 1906.
- MCCONNELL, E. F., Acting Assistant Surgeon. Granted twenty-two days' leave of absence, on account of sickness, and three days' annual leave, from May 17, 1906.
- RICHARDSON, S. W., Pharmacist. Leave of absence granted Pharmacist Richardson for ten days, from June 3, 1906, amended to read five days only.
- RIEMER, H. B. C., Acting Assistant Surgeon. Granted leave of absence for seven days, from June 14, 1906, under Paragraph 210 of the Regulations.
- STEVENSON, J. W., Acting Assistant Surgeon. Leave of absence granted Acting Assistant Surgeon Stevenson for thirty days, from June 11, 1906, amended to be effective from June 18, 1906.
- STIMSON, A. M., Assistant Surgeon. Directed to rejoin station at Ellis Island, N. Y.
- TROXLER, R. F., Pharmacist. Granted leave of absence for seven days, from June 13, 1906, under Paragraph 210 of the Regulations.
- WALKER, T. D., Acting Assistant Surgeon. Granted leave of absence for eight days, from June 8, 1906.

Army Intelligence:

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the United States Army for the week ending June 23, 1906:

- BEVENS, JAMES L., Captain and Assistant Surgeon. Advanced to the rank of captain, from June 16, 1906.
- BIRMINGHAM, H. P., Major and Surgeon. Will take temporary charge of the office of the chief surgeon, Department of the Gulf, and of the attending surgeon, during the absence of the latter on sick leave. Major Birmingham will retain station at Fort McPherson, Ga., and make such visits to the Department Headquarters and return as may be necessary.
- BRADLEY, A. E., Major and Surgeon. Left Fort Sheridan, Ill., on fifteen days' leave of absence.

- DAVIS, WILLIAM T., First Lieutenant and Assistant Surgeon. Left from temporary duty at San Francisco, Cal., *en route* to rejoin station, Army General Hospital, Washington, D. C.
- DUVAL, DOUGLAS F., Captain and Assistant Surgeon. Granted twenty days' leave of absence, on account of sickness, to take effect upon the expiration of present leave.
- FORD, CLYDE S., First Lieutenant and Assistant Surgeon. Ordered to proceed from New York City, N. Y., to Philadelphia, Pa., on official business pertaining to the inspection of certain articles manufactured for use in the Medical Department of the Army.
- GILCHRIST, H. L., First Lieutenant and Assistant Surgeon. Left from temporary duty at San Francisco, Cal., *en route* to rejoin station, Army General Hospital, Washington, D. C.
- KIRKPATRICK, THOMAS J., Captain and Assistant Surgeon. Reports for duty at the U. S. Target Range, Waco, Ga., from temporary duty at Fort McPherson, Ga.
- KNEEDLER, WILLIAM L., Major and Surgeon. Ordered to report in person to Brigadier General Frederick Funston, U. S. Army, president of the Army retiring board at San Francisco, Cal., at such time as he may designate, for examination by the board.
- METCALFE, R. F., First Lieutenant and Assistant Surgeon. Left Columbus Barracks, Ohio, with recruits, *en route* to Fort Lawton, Washington.
- SKINNER, GEORGE A., Captain and Assistant Surgeon. Granted twenty days' leave of absence on completion of his examination for promotion.
- WADHAMS, S. H., First Lieutenant and Assistant Surgeon. Left Fort Slocum, N. Y., on seven days' leave of absence.

Navy Intelligence:

Official List of Changes in the Medical Corps of the United States Navy for the week ending June 23, 1906:

- BUTTS, H., Assistant Surgeon. Appointed an assistant surgeon, with the rank of lieutenant, junior grade, from June 1, 1906.
- DOLLARD, H. L., Acting Assistant Surgeon. Ordered to the Naval Hospital, New York, N. Y.
- FREEMAN, G. F., Passed Assistant Surgeon. Ordered to special duty with the Surgeon General of the Navy.
- GARRISON, P. E., Assistant Surgeon. Appointed an assistant surgeon, with the rank of lieutenant, junior grade, from June 1, 1906.
- GILL, J. E., Assistant Surgeon. Detached from the *Kearsarge* and ordered home to await orders.
- LEE, A. E., Assistant Surgeon. Ordered to the Naval Hospital, Mare Island, Cal.
- PARKER, E. G., Passed Assistant Surgeon. Detached from the *Pensacola*, July 9th, and ordered to Washington, D. C., July 16th, for examination for promotion, and thence home to await orders.
- PLUMMER, G. R., Acting Assistant Surgeon. Reappointed an acting assistant surgeon for three years, from July 1, 1906.
- RAISON, T. W., Assistant Surgeon. Appointed an assistant surgeon, with the rank of lieutenant, junior grade, from June 1, 1906.
- STEADMAN, W. G., Jr., Acting Assistant Surgeon. Ordered to the Naval Hospital, New York, N. Y.
- WARNER, R. A., Assistant Surgeon. Detached from the Naval Academy and ordered to the *Louisiana*.
- WHEELER, L. H., Assistant Surgeon. Detached from the Naval Station, Cavite, P. I., and ordered to the *Helena*.
- WOODS, E. L., Assistant Surgeon. Detached from the Naval Academy and ordered to the *Kearsarge*.

Births, Marriages, and Deaths.

Married.

ARMSTRONG—JOHNSON.—In Warrenton, Virginia, on Saturday, June 16th, Dr. George G. Armstrong and Miss Janet D. Johnson.

CURTIN—MURRAY.—In Cohoes, N. Y., on Thursday, June 14th, Dr. William E. Curtin and Miss Veronica C. Murray.

DOOLING—MAHER.—In Brooklyn, N. Y., on Tuesday, June 19th, Dr. John J. Dooling and Miss Catherine Lucy Maher.

FORD—DUNN.—In Philadelphia, on Wednesday, June 20th, Dr. Frank Albert Ford and Miss Rachel Boyd Dunn.

HAIGHT—ROTHERY.—In Matteawan, N. Y., on Saturday, June 16th, Dr. Julius E. Haight and Miss Mabel Rothery.

KENDIG—ROYAL.—In Philadelphia, on Saturday, June 2nd, Dr. Harvey Everett Kendig and Miss Agnes Charlton Royal.

MACEVITT—PHELAN.—In Chicago, on Wednesday, June 13th, Dr. James MacEvitt and Miss Elizabeth Phelan.

MITCHELL—BENTLEY.—In New Brighton, Pennsylvania, on Tuesday, June 12th, Dr. Joseph Ernest Mitchell and Miss Helen Bentley.

NIES—WARE.—In Topeka, Kansas, on Wednesday, June 20th, Dr. Frederick Harold Nies and Miss Abbie Huntington Ware.

QUIGLEY—SEARL.—In Franklinville, N. Y., on Wednesday, June 20th, Dr. James Knight Quigley and Miss Genevieve Searl.

ROCKHILL—HACKEDORN.—In Toledo, Ohio, on Wednesday, June 27th, Dr. Charles Sumner Rockhill and Miss Margaret Hackedorn.

WALDO—FORSTER.—In Ovid, N. Y., on Monday, June 18th, Dr. Louis T. Waldo and Miss Claire Howell Forster.

WILDER—FIELD.—In Brookline, Massachusetts, on Monday, June 11th, Dr. Burt G. Wilder and Miss Mary Field.

Died.

BEHN.—On board the *Graf Waldersee*, of the Hamburg-American Line, on Saturday, June 16th, Dr. Karl Eduard Behn, aged forty-five years.

BULLARD.—In New York, on Wednesday, June 20th, Dr. William Duff Bullard, aged thirty-four years.

BURCKHALTER.—In New York, on Wednesday, June 20th, Dr. Thomas De L. Burckhalter, aged thirty years.

CABELL.—In Richmond, Virginia, on Tuesday, June 19th, Dr. Arthur Grattan Cabell, aged fifty-two years.

CHELLIS.—In Nashua, New Hampshire, on Wednesday, June 13th, Dr. Seth G. Chellis, aged thirty-six years.

COLLIER.—In Salisbury, Maryland, on Tuesday, June 12th, Dr. Levin D. Collier, aged seventy-five years.

DICKSON.—In Cambridge Springs, Pennsylvania, on Saturday, June 16th, Dr. Hiram F. Dickson, aged fifty-eight years.

EBERT.—In Mauch Chunk, Pennsylvania, on Friday, June 22nd, Dr. Charles M. Ebert, aged eighty-four years.

GAFFNER.—In Trenton, Illinois, on Friday, June 15th, Dr. T. Gaffner, aged fifty-four years.

HEISKELL.—In Baltimore, Maryland, on Friday, June 22nd, Dr. Sydney O. Heiskell, aged fifty-three years.

HENRY.—In Montgomery, Alabama, on Tuesday, June 19th, Dr. John Hazard Henry, aged seventy-seven years.

HUNT.—In Plainfield, Indiana, on Tuesday, June 12th, Dr. Tighlman Hunt, aged sixty-eight years.

KENDRICK.—In Downey, California, on Thursday, May 31st, Dr. Julien Carroll Kendrick, aged sixty years.

KEYES.—In Glens Falls, N. Y., on Friday, June 22nd, Dr. William Richard Keyes, aged forty-two years.

LAMCANIUS.—In Catonsville, Maryland, on Wednesday, June 13th, Dr. Charles Augustus Lamcanius.

LIVELY.—In Brooklyn, N. Y., on Monday, June 18th, Dr. William M. Lively, aged fifty-nine years.

LOWREY.—In Huntsville, Alabama, on Thursday, June 7th, Dr. Samuel H. Lowrey, aged fifty-seven years.

McKNIGHT.—In Saratoga, N. Y., on Thursday, June 21st, Dr. Charles S. McKnight, aged fifty-three years.

SKINNER.—In Peoria, Illinois, on Sunday, June 17th, Dr. William Wallace Skinner, aged seventy-one years.

VAN WAGONEN.—In Westernville, N. Y., on Friday, June 15th, Dr. H. J. Van Wagonen, of Philadelphia, aged thirty-three years.

WEBSTER.—In Rochester, N. Y., on Saturday, June 16th, Dr. Harrison E. Webster, aged sixty-four years.

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